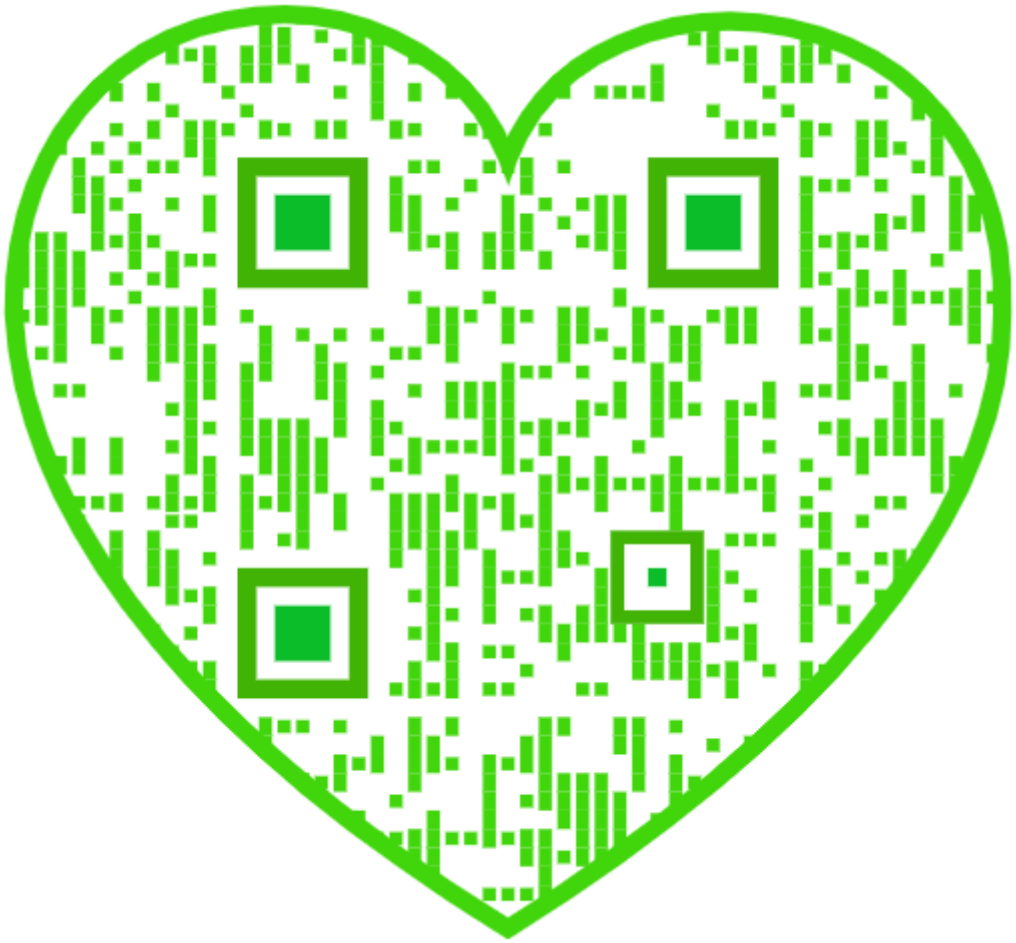


UF
403
.A3
1916
v.2

WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF

PROVISIONAL

Drill and Service Regulations for Field Artillery

(Horse and Light)

1916

▽

VOLUME II

Parts IV, V, VI, VII, and VIII

WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

WAR DEPARTMENT.

Document No. 538.

Office of the Chief of Staff.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF STAFF,
Washington, April 19, 1916.

The following provisional system of Drill and Service Regulations for Field Artillery (Horse and Light), 1916, is approved and herewith published for the information and government of the Regular Army and the Organized Militia of the United States.

By order of the Secretary of War:

H. L. SCOTT,
Major General, Chief of Staff.

PART IV.

TABLE OF CONTENTS.

	Par.
PART IV	464–568
CHAPTER I. THE BATTERY MOUNTED	464–568
Section I.—Object and sequence of the instruction	464–466
Section II.—General provisions	467–471
Section III.—Organization of the battery	472–475
Section IV.—Formations of the battery and posts of individuals	476–487
Formations	476–482
Posts of individuals	483–487
Section V.—The park	488–499
Disposition of the carriages	488
To form the battery in the park	489–496
To dismiss the battery	497–499
Section VI.—Route marches	500
Section VII.—Commands, signals, etc	501–507
Commands	501–503
Arm signals	504–506
Whistle signals	507
Section VIII.—Maneuvers of the battery	508–548
Guides	508–515
Gaits	516–519
To align the battery	520–521
To march to the front	522
To halt	523
To march by the flank	524–525
To march to the rear	526–528
To march obliquely	529
To change direction	530–531
To execute a passage of carriages	532
To close or extend intervals in line	533
To form section column to the front from line	534
To form line from section column	535–538
To form flank column from section column	539
To form line to the front from flank column	540

PART IV—Continued.
CHAPTER I. THE BATTERY MOUNTED—Continued.
Section VIII.—Manuevers of the battery—Con. Par.
To form line to the flank at closed intervals from flank column 541
To form section column from flank column 542
To form double section and to resume the previous order 543–547
Passage of obstacles 548
Section IX.—To subdivide the battery for action 549–550
Section X.—To form in battery and to resume a marching formation 551–558
General provisions 551–558
To fire to the front 559
To fire to the rear 560
To fire to the flank 561
To limber to the front and rear and to march 562–564
To limber to the rear and to march 565–567
To form double section line after limbering 568
CHAPTER II. THE BATTALION MOUNTED 569–582
Section I.—Organization of the battalion 569
Section II.—Formations of the battalion 570–574
Section III.—Posts of individuals 575
Section IV.—To form the battalion 576–580
Section V.—Maneuvers of the battalion 581–582
CHAPTER III. THE REGIMENT MOUNTED 583–589
Section I.—Organization of the regiment 583
Section II.—Formations of the regiment 584–586
Section III.—Posts of individuals 587
Section IV.—To form the regiment 588
Section V.—Maneuvers of the regiment 589
PART V. CARE, CONDITIONING, AND TRAINING OF HORSES 590–652
CHAPTER I. GENERAL PRINCIPLES 590
CHAPTER II. CARE AND CONDITIONING OF HORSES 591–633
Section I.—Rules for the care of horses 591
Section II.—Stables and stable management 592–595
Feeding 596–600
Watering 601–602
Stable duty 603–610
Shoeing 611–613
Section III.—Conditions and exercise 614–622
Section IV.—Care of horses on the march and in the field 623–633

	Par.
PART V. CARE, CONDITIONING, AND TRAINING OF HORSES—Continued.	
CHAPTER III. TRAINING OF ARTILLERY HORSES	634–652
Section I.—Object and sequence of instruction	634–635
Section II.—Training remounts	636
Section III.—Training for saddle	637–652
Work	637
Leading	638
The longe	639
Saddling	640
Mounting	641
Mounted work	642
The aids	643
Bending exercises	644
To turn on the forehand	645
To turn on the haunches	646
Backing	647
Two tracks	648
Section IV.—Training in draft	649–652
PART VI. CARE AND MAINTENANCE OF EQUIPMENT	653–696
CHAPTER I. GENERAL PROVISIONS	653–654
CHAPTER II. CARE OF THE BATTERY EQUIPMENT	655–694
Section I.—Responsibility	655
Section II.—Instruction	656–666
Nomenclature	658
Tools and accessories	659
Materials for cleaning and preservation	660
Cleaning of carriages, etc	661
Lubrication	662
Disassembling and assembling	663
Repairs and adjustments	664
Cleaning after firing	665
Painting	666
Section III.—The wheeled matériel	667–673
Section IV.—Harness and horse equipment	674–680
Section V.—Range finding and fire control and signal equipment	681–686
Section VI.—Individual equipment	687–694
CHAPTER III. CARE OF BATTALION AND REGIMENTAL HEADQUARTERS EQUIPMENT	695–696
PART VII. CEREMONIES	697–806
CHAPTER I. GENERAL RULES	697–699
CHAPTER II. REVIEWS	700–726
Section I.—General rules	700–719
Section II.—Battalion review	720–721
Section III.—Regimental review	722–724

	Par.
PART VII. CEREMONIES—Continued.	
CHAPTER II. REVIEWS—Continued.	
Section IV.—Brigade review	725
Section V.—Garrison review	726
CHAPTER III. INSPECTIONS	727–740
Section I.—General rules	727–729
Section II.—Battery inspection	730–735
Mounted	730–732
Dismounted	733–735
Section III.—Battalion inspection	736–738
Section IV.—Regimental inspection	739–740
CHAPTER IV. MUSTER	741
CHAPTER V. ESCORTS	742–753
Section I.—Escort of the standard	742–744
Section II.—Funeral escort	745–753
CHAPTER VI. GUARD MOUNTING	754–767
CHAPTER VII. MISCELLANEOUS	768–826
Section I. The guidon	768–772
Section II.—The standard	773–776
Section III.—The saber	777–784
Section IV.—The band	785–787
Signals of the drum major	786
To inspect the band	787
Section V.—Honors	788–815
Section VI.—Salutes with cannon	816–826
National salutes	819
Personal salutes	820–826
PART VIII. BUGLE CALLS	827–832
Warning calls	827
Formation calls	828
Alarm calls	829
Service calls	830
Drill signals	831–832

PART IV.

CHAPTER I.—THE BATTERY MOUNTED.

SECTION I.—OBJECT AND SEQUENCE OF THE INSTRUCTION.

464. The special object of this instruction is the training of the personnel of the battery in the dispositions and maneuvers requisite for getting the guns into position for action. Methods of training in opening and delivering fire are laid down in Firing Instruction. The two kinds of training supplement each other and should be practiced concurrently.

465. A progressive order of instruction conforming to the annual program is observed. The gun squads, the drivers, and the special details having been instructed under the close supervision of the captain (**34**), he then takes up and completes the training of the battery as a whole. The preliminary instruction under the immediate charge of the lieutenants is executed with great precision and attention to detail. On its thoroughness depends to a great extent the fighting and maneuvering efficiency of the battery. The early part of this preliminary instruction is carried on in the most favorable place, as the gun park and the riding school. The latter part, however, should be carried on by hitching and taking the carriages outside, thus giving both cannoneers and drivers a constant change of scene and so avoiding monotony. The guns having been placed in position, the elementary training then continues. The executive completes and perfects the training of the gun squads; the reconnaissance officer develops the special details, and the lieutenant in charge of the horses completes the instruction outlined under The Driver. It is also the best time for this officer, by putting his drivers with the pairs unhitched on a large outside circle where he can closely watch the riding of each man, to employ steady and regular conditioning trots, gradually in-

creasing in length from day to day. Thus, when instruction by battery begins, each man in the organization should have been carefully specialized for the particular task expected of him, and both men and horses should have been brought to a thoroughly fit physical condition. It remains then for the captain, during battery instruction, to get his organization working together smoothly and effectively as a team, and so ready to take its place in the battalion.

466. During the period devoted to battery instruction daily practice should be had in the reconnaissance and occupation of positions; in advancing to such positions over varying kinds of terrain which frequently should involve difficulties in transport or a march of greater or less distance; in the determination of firing data for direct and indirect laying at fixed and moving targets; in simulated fire, etc. This practice should approximate the conditions of war as nearly as possible.

During this instruction the captain must make every effort to avoid the disorganizing influence of long periods of idleness for any of the men. Each day's work should be according to a prearranged and carefully thought out plan, under a tactical situation having a definite object, and so arranged that every man and every animal will be required to work diligently from its beginning to its completion. Thus, during simulated fire the drivers should not be permitted to remain idle but should be caring for their horses; handrubbing shoulders or backs; unhitching and establishing a picket line on the limbers; or working their pairs on a circle to secure and maintain condition, etc. The whole instruction period should be marked by energy, vim, purpose, decision, and industry, and should then be terminated punctually and in ample time for the men properly to care for the animals and matériel before the next meal hour.

When for any reason this time is seriously encroached upon, the horses should be watered and fed, especial care having been taken that they arrive in park with temperature and respiration restored to normal, and the men permitted to get their meal. Harness, horses and matériel are cared for afterwards.

SECTION II.—GENERAL PROVISIONS.

467. Recruits, after their first three months' instruction, and older men during any instruction year, are specialized for their particular places in the battery, such as cannoneer, driver, telephone operator, etc.

468. The saber is carried at ceremonies. When the captain draws saber the lieutenants will also draw saber.

469. Unless otherwise stated, the text refers to light batteries. With necessary modifications in distances and in the duties of cannoneers, it becomes equally applicable to horse batteries.

Special directions are given herein when the gun squads of horse batteries have to make any particular movement. When the gun squads are not mentioned, they have only to maintain their posts in rear of their caissons, dressing toward the side of the guide. In section column the guide of each gun squad is without indication to the right. When flank column or double section column is formed, the gunners form their squads on the outer flank of the caisson, the cannoneers of the front rank aligned on the axle of the limber.

470. A gun section consists of a gun and its caisson, manned, horsed, and equipped.

A **caisson section** consists of two caissons, manned, horsed, and equipped.

The leading caisson of each caisson section in the normal order in park is called the **first caisson**; the other is called the **second caisson.** What is prescribed in the text for pieces and caissons of gun sections applies, with obvious modifications, to first and second caissons of caisson sections, respectively.

471. The rests are executed and the attention is resumed according to the principles already explained for The Soldier Mounted and The Driver (**459**).

SECTION III.—ORGANIZATION OF THE BATTERY.

472. The battery as organized on a war footing is shown in the Tables of Organization. It is commanded by the captain.

The first platoon is commanded by the executive; the second platoon by the assistant to the executive; the third platoon by the reconnaissance officer, when that officer is not otherwise employed; and the fourth platoon by the lieutenant in charge of Department B (**82**).

The **first sergeant** is assistant to the captain, and is responsible to him for the general good order, police, and discipline of the battery.

The **stable sergeant** is responsible for the general care of the public animals assigned to the battery and the good order and police of the stables, picket lines, etc.

The **supply sergeant** is responsible for the care of all Government property issued to the battery.

The **mess sergeant** is responsible for the proper messing of the battery.

The **chief mechanic** is responsible for the good order and repair of the matériel in actual use by the battery. In action he assists the executive.

The **sergeants** command sections.

The **gunners** are responsible for the good order of their guns, carriages, limbers, and equipment.

Each **caisson corporal** is placed in charge of a caisson, and acts as assistant to his chief of section.

473. On subdivision for action the battery is divided into the **firing battery** and the **combat train.** The firing battery comprises the first five sections. It is under the immediate command of the captain. The combat train comprises the sixth, seventh, eighth, and ninth sections. It is commanded by the lieutenant in charge of Department B. He is assisted by the stable sergeant.

474. On a peace footing the sixth, seventh, and eighth sections are not manned or horsed. Otherwise the organization is similar to that on a war footing and is separately shown in the Tables of Organization.

475. In light batteries the cannoneers are on foot or mounted on the carriages at the discretion of the captain; they are not

ordered to mount or dismount when the battery is marching at a trot or gallop.

In horse batteries every one is mounted; the cannoneers, except the horse holders, dismount to serve the guns.

SECTION IV.—FORMATIONS OF THE BATTERY AND POSTS OF INDIVIDUALS.

Formations.

476. The habitual formations are the **order in line**, the **order in section column**, the **order in flank column**, and the **order in battery.**

477. The **order in line** is that in which the sections of the battery are formed abreast of each other in the order, or the reverse order, of their numbers from right to left. The carriages are limbered, and in each section are in section column, the pieces being either in front or in rear of their caissons. In the normal order in **park** the pieces are usually in front.

If the carriages of each section are in double section, the formation is called a **double section line.**

478. The **order in section column** is that in which the sections of the battery follow each other in the order, or the reverse order, of their numbers, from front to rear. The carriages are limbered, and in each section are in section column (**424**), the pieces being either in front or in rear of their caissons.

If the carriages of each section are in double section, the formation is called a **double section column.**

479. The **order in flank column** is that in which the sections of the battery follow each other in the order, or the reverse order, of their numbers, from front to rear. The carriages are limbered, and in each section are in flank column, the caissons being all either on the right or left of their pieces (**404**).

480. The **order in battery** is that in which the pieces and caissons of the gun sections, placed for action, are in line in the order, or the reverse order, of their permanent numbers, from right to left; the caissons of the fifth section, unlimbered,

one on each flank of this line, or otherwise disposed by direction of the captain or the executive; the limbers either in rear of their carriages or formed at such other place as the captain may order.

The sections comprising the combat train, when present, are posted at the discretion of the captain.

481. The intervals and distances for hitched carriages (**423**) apply to the formations of the battery. In the order in battery the intervals between adjacent wheels of gun carriages is that prescribed for hitched carriages in line.

In column or in line, the distance between a carriage and a mounted gun squad is 2 yards; in flank column the distance between caissons is such as to permit each caisson to march abreast of its piece; in line, when the pieces lead, the distance between caissons of the caisson sections is such that they march in line with the caissons of the gun sections. In battery, when the limbers take post in rear of their carriages, the distance between the line of pieces and that of the teams is 25 yards, measured from the rear of the caissons to the heads of the lead horses.

482. When the teams are short one or more pairs, the intervals are diminished 3 yards for each pair that is missing; should the teams have more than three pairs the intervals are increased 3 yards for each additional pair.

If any carriage has lost one pair of horses or more, it has the same position as if the team were complete.

Posts of Individuals.

Individuals.	Order in line.	Order in section column.	Order in flank column.	Order in battery.
Captain	8 yards in front of the battery opposite the center.	Opposite the center of the column and 15 yards from the left flank.	Opposite the center of the column and 15 yards from its flank; on the left when the right section leads, and on the right in the reverse order.	Halfway between the two center sections, 10 yards in rear of the line of the trail spades.
Platoon commander	Halfway between his sections and in line with the lead drivers of his leading carriages.	Opposite the center of his platoon, 4 yards from the left flank.	Halfway between the pieces and caissons, and in line with the lead drivers of his leading carriages.	Halfway between the guns of his platoon, and 5 yards in rear of the line of the trail spades.
First sergeant	Halfway between the center sections, opposite the rear of the rear carriages.	Opposite the center of the battery, 4 yards from the right flank.	Opposite the center of the column and 4 yards from its flank; on the right when the right section leads, and on the left in the reverse order.	Halfway between the two center sections, 20 yards in rear of the line of the trail spades.
Chief of section	Boot to boot with the lead driver of his leading carriage.	Same as in line	Boot to boot with the lead driver of his piece. In double section he has the same post.	2 yards in rear of his caisson and opposite its center.
Caisson corporal	Boot to boot with the lead driver of his caisson; but if the chief of section is posted with the caisson, then boot to boot with the swing driver.	do	Boot to boot with the lead driver of his caisson.	Same as in line.
Guidon	Abreast of the guide of the battery, and 2 yards to his left. Before leaving park, 4 yards from the right flank of the battery aligned on the lead drivers.	Abreast of the leading guide of the battery, and 2 yards to his left.	Abreast of the guide of the battery, and 2 yards to his left.	With the combat train.
Bugler	Boot to boot with each other, 2 yards in rear of the captain.	Same as in line	Same as in line	Same as in line.

484. The cannoneers take the posts prescribed for them as members of gun or caisson squads.

In horse batteries, the post of the gun squad with the carriages limbered is 2 yards in rear of the caisson except in flank column or double section column (**469**). When the carriages are unlimbered, the horse holders, with the horses of the squad, take post 2 yards in rear of the caisson limber.

485. The special details are posted and maneuvered with the first caisson of the fifth section in a manner similar to that of a mounted gun squad.

486. When the battery is accompanied by such personnel as the supply sergeant, the stable sergeant, mess sergeant, mechanics, cooks, etc., when the ninth section is not present, such men are assigned to posts at the discretion of the captain. It will usually be found desirable to post them as members of gun or caisson squads, if they are dismounted; or, if they are mounted, to post them in line boot to boot in the order of rank from right to left as follows: In the order in line, 4 yards from the left flank of the battery, abreast of the lead drivers; in the order in battery, 4 yards from the left flank of the line of limbers or teams, abreast of the lead drivers; in column, either 4 yards in front of the leading section, or 4 yards in rear of the last section, according as the column has been formed toward their flank of the battery or the flank opposite. During the maneuvers of the battery they retain their relative positions and do not change to the opposite flank on account of the battery being faced to the rear.

487. The posts designated in the foregoing table are the typical ones. The captain, however, goes wherever his presence is required, where he may best observe, and where his commands may best be heard. The lieutenants leave their posts if it is necessary for the purpose of supervising the work of their platoons. The chiefs of section habitually maintain their posts during the maneuvers of the battery; but during the practice of fire discipline, during marches, and at other times when necessary, they leave their posts in order to supervise the work of their sections.

SECTION V.—THE PARK.

Disposition of the Carriages.

488. The carriages are ordinarily arranged in park in the order in line, the sections arranged from right to left in the order of their numbers, the pieces in the front rank. The interval between adjacent carriages may be either the normal interval or such as the captain may direct; the distance between the ranks of carriages is such that, when hitched, the distance is that prescribed in paragraph (**428**).

To Form the Battery in the Park.

489. The battery, dismounted, being formed on the battery parade (**151**), the first sergeant commands: **Drivers to the front.**

The chiefs of section and driver squads step 6 yards to the front; the chiefs of section place themselves in front, and the individually mounted men in the line of file closers of the squads thus formed. The first sergeant sees that suitable cannoneers are detailed to replace absent drivers, closes the driver squads toward either flank, and directs the senior chief of section to march them to the horses.

On arrival at the stable or picket line, the chief of section in charge halts the drivers and commands: **Harness.** The drivers fall out and harness under the supervision of their respective chiefs. Chiefs of section and other individually mounted men saddle their horses while the drivers harness.

The drivers having been marched off, the first sergeant closes the gun squads to either flank and directs the senior gunner to march them to the park. The senior gunner, on arrival at the park, posts the gun squads with their carriages.

If the carriages are in a gun shed, the senior gunner halts the column in front of the building, gives the necessary directions for the formation of the park, and commands: **Form park.**

The cannoneers fall out, the carriages are run out by hand and formed in park.

The park being in order, the senior gunner posts the cannoneers at the carriages limbered (181). He then commands: **Put your carriages in order.** At that command each gunner and No. 4, under the supervision of the chief mechanic, prepare the carriages for hitching in. The remaining cannoneers either assist in this work or are sent to assist in policing the picket line or stables, as may be directed. They are returned to their posts by the time the teams are hitched.

When the horses are harnessed, the first sergeant designates the place of formation and commands: **LEAD OUT;** or, 1. **First (such) section,** 2. **LEAD OUT.**

The sections lead out and form in column. The first sergeant mounts the drivers, conducts the column to the park, posts the teams with their carriages, and causes them to be hitched.

If the park is near by, the first sergeant, as soon as the horses are harnessed, commands: 1. **To your carriages;** 2. **LEAD OUT;** or, 2. **First (such) section,** 3. **LEAD OUT.** He then gives the commands for hitching as before.

In all cases the first sergeant sees that the cannoneers perform their duties in the park and that the drivers harness, lead out, and hitch with the least practicable delay and without noise or confusion.

490. In the field when the horses are harnessed at the carriages the duties are performed in a similar manner. The senior chief of section, on the arrival of the drivers at the picket line, commands: **Harness and hitch.** The teams are hitched by the drivers, under the direction of their chiefs of section, according to the methods heretofore prescribed.

491. In horse batteries, as soon as the park is formed and the carriages made ready for use, the senior gunner directs the gunners to march their squads to the horses and have the horses saddled.

The squads may be required to lead out with the teams of their sections. In this case they form in rear of the teams and are marched to the park with them, each gunner posting his squad in rear of its caisson as the teams of the section are being posted with their carriages.

If the squads are not ready when the teams are harnessed the first sergeant may direct that the teams be led out and posted as above prescribed; when ready each squad is then led out and formed by its gunner, marched to the park, and posted.

492. The lieutenants reach the park or the stables at such time as is necessary for them to superintend the proper details of their departments (**32**). They take their posts as chiefs of platoon, as soon as the teams are posted with the carriages, and in time to superintend the hitching.

493. Each chief of section, as soon as his teams are hitched, makes a minute inspection of his section and reports the result to his chief of platoon.

494. Each chief of platoon, having received the reports of his chiefs of section and made a general inspection of the platoon, commands: **REST.**

495. The special details and the other individually mounted men take their posts during the hitching.

The buglers report to the captain at such time and place as he may direct.

496. Upon the approach of the captain the chiefs of platoon call their platoons to attention, and as soon as the captain takes his place in front, report in succession from right to left: **(Such) platoon in order, sir;** or if anything be missing or out of order they so report.

As soon as the chiefs of platoon have reported, the first sergeant reports to the captain (**151**).

To Dismiss the Battery.

497. As soon as the battery is parked each chief of section makes a minute inspection of his section and reports all losses or injuries to the chief of platoon; the chiefs of platoon then report in succession from right to left: **(Such) platoon in order, sir;** or if anything be missing or out of order they so report.

The reports having been made, the captain gives such instructions as may be necessary, and directs the first sergeant: **Dismiss the battery.** The officers return saber, if drawn, and fall out.

The first sergeant commands: 1. **Cannoneers**; 2. **UNHITCH**; or, 1. **Drivers**, 2. **UNHITCH**, 3. **UNHOOK TRACES.**

The special details and other individually mounted men leave the park and return their horses to the stable or picket line.

The teams being unhitched, the first sergeant marches them to the stable or picket line and commands: **FALL OUT.** Each chief of section thereupon takes charge of his section, dismounts the drivers, causes them to unhook traces, if necessary, and lead to their places for unharnessing.

If the stables or picket lines are close by, the first sergeant commands: 1. **By the right (left, or right and left)**, 2. **FALL OUT**, and the drivers lead at once to their stalls or to their places on the picket line.

The lieutenant in charge of Department A, assisted by the chief mechanic, superintends the work of the cannoneers in caring for the wheeled matériel.

The lieutenant in charge of Department B, assisted by the first sergeant and stable sergeant, superintends the work of the drivers in caring for their harness and horses.

498. In the field, when the horses are unharnessed at the carriages, the duties are performed as above described, except that the first sergeant, when directed to dismiss the battery, commands: 1. **Drivers**, 2. **UNHITCH AND UNHARNESS.**

The teams are unhitched and unharnessed by the drivers under the direction of their chiefs of section, according to the methods heretofore prescribed, the horses being tied to the picket line as soon as unharnessed.

499. In horse batteries, while the drivers are unhitching, the senior gunner forms the gun squads, marches them to the stable, and commands: **FALL OUT.** Each gunner conducts his squad to its place in the stable and causes the cannoneers to unsaddle and care for their equipments; he assigns suitable cannoneers to the care of the horses, so that there is one man for each two animals; he then marches the remaining cannoneers back to the park to care for the matériel.

SECTION VI.—ROUTE MARCHES.

500. The section column is the habitual column of route; the distance between carriages is that prescribed in paragraph **423**, but may be increased when the ground is difficult. When the length of the column is not a matter of importance, distances may also be increased to avoid thick dust.

Being in march: **ROUTE ORDER**, or **AT EASE.**

Executed according to the principles already prescribed.

To resume the attention, the captain commands: **1. Battery, 2. ATTENTION.**

The leading carriage is responsible for, and sets the pace of, the march.

The post of the captain on a route march is 15 yards in front of the lead horses of the leading carriage. The captain, however, must frequently let the column pass him in order to observe the condition of men and horses.

One bugler accompanies the captain; the other, the executive. If a third bugler is present, he accompanies the commander of the combat train.

The chiefs of platoon habitually march opposite the rear carriages of their platoons and superintend the march, going wherever their presence may be required.

The chiefs of section leave their posts whenever necessary to superintend the march of their sections.

At each halt, chiefs of platoon and chiefs of section carefully inspect to see that their drivers faithfully perform their duties.

To avoid dust, the officers and noncommissioned officers may march on the windward side of the column. For similar reasons the cannoneers are permitted to march on the right or left, to take advantage of a footpath, etc.

When the road is suitable, the drivers and horses should be rested frequently by dismounting the drivers. Before going down hill or over rough parts of the road, the wheel drivers should mount without command, dismounting again when on the level or when the rough place is passed.

In horse batteries the gunners, whenever necessary, form their squads in column of twos, re-forming line as soon as the ground permits. They also cause their cannoneers to dismount and lead whenever the drivers are dismounted.

Constant attention should be given by each officer, chief of section, and caisson corporal to insure the proper handling of every team and the correct adjustment of harness. They should see that each team horse does his share of the work, that no horse is overworked or overheated, that distances are preserved, and that no carriage, while in the column, moves at a gait other than that ordered. No practice is more fatiguing and injurious to horses than the alternate trotting and walking so often seen at the rear of a column.

During marches, the principles outlined under Teams and their Management in Draft (**450–463**) and Care of Horses on the March are to be observed and followed.

SECTION V''.—COMMANDS, SIGNALS, ETC.

Commands.

501. Commands are given by the captain either verbally, or by arm, bugle, or whistle signals. When verbal commands are given, they may be supplemented by the appropriate signals.

502. Chiefs of platoon repeat the commands of the captain, or give appropriate commands to their platoons in time to insure the proper execution of the maneuver. The chiefs of platoon ordinarily give their commands verbally, supplemented, if necessary, by the appropriate arm signal, and see to it that the commands of the captain are understood and correctly executed by their platoons. If a chief of platoon does not hear a command, he governs himself by what he sees executed by the adjoining platoon.

503. Chiefs of section repeat the commands of the chiefs of platoon, or give appropriate commands to their sections in time to insure the proper execution of the maneuver. Chiefs of section ordinarily give their commands by arm signals, sup-

plemented, if necessary, by verbal commands, and see to it that the command is understood and that it is correctly executed.

Arm Signals.

504. Signals are ordinarily made with the right arm, but may be made with the left when more convenient; when made with the left arm the reins are taken temporarily in the right hand.

If the saber is in hand, the signals are made in a manner similar to that prescribed for the arm.

505. Ordinarily, before making a signal for the execution of a movement, the captain places himself where he can be seen by the battery, generally with his horse facing in the same direction as the team horses, and signals the attention with the whistle or bugle.

The signals prescribed for the different maneuvers are preparatory signals; for the signal of execution the arm is extended vertically and then lowered quickly to the side. If the movement involves a change in the direction of march, the captain moves his horse in the new direction on making the preparatory signal.

506. Preparatory signals:

Attention.—Extend the arm vertically and move it slowly back and forth from right to left.

Forward.—Extend the arm vertically and lower it to the front until horizontal.

By the right (left) flank.—Extend the arm vertically and lower it to the right (left) until horizontal.

Right (Left) about.—Extend the arm vertically and describe slowly a large horizontal circle with the hand; then extend the arm to the left (right) and describe a horizontal arc to front and right (left).

Countermarch.—Extend the arm vertically and describe quickly several horizontal circles with the hand.

Right sections forward.—Extend the arm vertically and then thrust several times to the front.

Right (Left) oblique.—Extend the arm obliquely upward to the right (left) and front, and then lower the arm, describing a vertical circle on the right (left) side of the horse.

To increase the gait.—Carry the hand to the shoulder, forearm vertical; extend the arm vertically from this position and repeat several times.

To decrease the gait.—Hold the arm horizontally above and in front of the forehead.

To indicate an increased or decreased gait for a maneuver, the appropriate signal is made just after the preparatory signal for the maneuver.

To halt.—Extend the arm vertically and hold it there until the signal is obeyed.

To change direction to the right (left).—Extend the arm vertically; lower it to the left (right) until horizontal and describe a horizontal arc to the front and right (left).

To close intervals.—Point to the section on which the intervals are to be closed, and then signal right (left) oblique, or left and right oblique, according as the intervals are to be closed on the right (left) section or on an interior section.

To extend intervals.—Point to the section on which intervals are to be extended, and then signal left (right) oblique, or right and left oblique, according as the intervals are to be extended on the right (left) section or on an interior section.

Right (Left) by section.—Point at the right (left) section and signal forward.

Right (Left) front into line.—Extend the arm vertically and describe several large vertical circles on the right (left) side of the horse.

Right (Left) into line.—Signal a change of direction to the right (left), followed by describing small circles with the hand while the arm is extended to the right (left).

Pieces front.—Extend the arm horizontally to the front and then move it several times through a small vertical arc.

Caissons front.—Extend the arm horizontally to the front and then move it several times through a small horizontal arc.

Flank column, right (left) oblique.—Extend the arm horizontally to the right (left) and then move it several times through a small horizontal arc.

Double section, right (left) oblique.—Extend the arm horizontally to the right (left) and then move it several times through a small vertical arc.

The signals for **flank column, or double section, right (left) oblique,** apply also for the formation of flank column or double section to the right (left) after limbering.

Action front (right, left, rear).—Extend the arm vertically; then lower quickly to the front (right, left, rear), and repeat several times.

Limber.—Extend both arms laterally.

Whistle Signals.

507. Attention.—One long blast.

Cease firing.—One long blast. Given only when the battery is in position and firing service or subcaliber ammunition.

Special Detail Report.—Three long blasts.

Cannoneers Report.—Several short, sharp, and rapid blasts.

Chiefs of Section Report.—One long, followed by one short, blast, the whole signal repeated once.

Chiefs of Platoon Report.—Two long blasts.

At the signals for reporting, the personnel indicated report in person to the captain.

Section VIII.—Maneuvers of the Battery.

Guides.

508. The guide of a carriage is its lead driver; of a section in section column, the lead driver of its leading carriage; of a section in double section, the lead driver of its left carriage.

Chiefs of section supervise the gait and direction of march of their sections.

In section column, the guide of the leading section is the guide of the battery.

509. The guide of the battery in line is the guide of the right, left, or center section.

510. The guide of the battery in flank column is the guide of the leading carriage on one flank or the other.

511. During an oblique march the guide of the battery is, without indication, the guide of the leading carriage on the side toward which the oblique is made.

512. On leaving park the guidon at once posts himself with the guide of the battery. If a subsequent maneuver places the guidon at the rear of a section column, he hastens to post himself with the guide of the leading section; if with a rear carriage in line or in flank column, he hastens to post himself with the guide of the leading carriage nearest his former position, or takes post with the indicated guide in case a guide is announced. On the formation of double section the guidon posts himself with the left carriage of the guiding section. During an oblique march the guidon does not change position.

513. With the exception just noted, the guide is habitually toward the guidon; while he is changing position, it is toward the guide with whom he is to take post.

514. The captain may announce or change the guide thus: **Guide (right, left, or center).**

515. If the captain desires, he may place himself in front of any carriage of the battery, and command: **Guide on me.** The carriage in rear of the captain then follows his movements and the others guide on this as the directing carriage, regulating their march and gait so as to maintain their proper relative positions. The guidon posts himself with the directing carriage.

Gaits.

516. Unless otherwise specified, horse artillery executes the movements herein prescribed at the walk, trot, or gallop; light artillery, at the walk and trot only. For light artillery the gallop should usually not be used, except for short distances

when all carriages are in line or column and when a change of direction for any carriage is not involved (36–38).

517. In changes of formation the carriages which establish the direction and rate of march of the new formation are termed **directing carriages.**

518. Reducing the gait **one degree** is to be understood as passing from the gallop to the trot, from the trot to the walk, or from the walk to the halt.

Increasing the gait **one degree** is to be understood as passing from the halt to the walk, from the walk to the trot, or from the trot to the gallop.

519. The following rules govern the gaits during changes of formation:

Movements from Column into Line, and Analogous Movements.

Rule I. When a change of formation requires certain carriages to gain ground so as to reach specified positions abreast of the directing carriages, the captain may or may not announce an increased gait for the movement. If he announces an increased gait, the directing carriages maintain their gait; the other carriages move at the gait announced until they have reached their new position, when they take the gait of the directing carriages.

If the captain does not announce an increased gait, the directing carriages reduce their gait one degree; the others maintain their gait until they reach their new position, when they take the gait of the directing carriages. If the movement is executed from a halt or while marching at a walk, and an increase of gait is not ordered, the directing carriages advance three carriage lengths toward the front of the new formation and halt.

This rule applies to forming line from column, double section line from line, flank column from section column or double section column, double section column from section column or flank column, closing or extending intervals, and wheeling by battery.

Movements from Line into Column, and Analogous Movements.

Rule II. When a change of formation requires the directing carriages to gain ground in order to precede the other carriages, the captain may or may not announce an increased gait for the movement. If he announces an increased gait, the directing carriages take the increased gait at once, the other carriages take it up so as to follow the movement in their proper order.

If the captain does not announce an increased gait, the directing carriages maintain their gait, the others reduce the gait one degree, and take the gait of the directing carriages in time to follow the movement in their proper order. If the movement is executed from a halt, or while marching at a walk, and an increase of gait is not ordered, the directing carriages move at a walk; the others remain halted, or halt and take up the gait of the directing carriages as before.

This rule applies to forming column from line, line from double section line, section column from flank column or from double section column, and passage of carriages.

To Align the Battery.

520. The battery being in line at a halt:

If the section on the side toward which the alignment is to be made is not in proper position, the captain establishes it in the position desired, and commands: 1. **Right (left)**, 2. **DRESS**, 3. **FRONT.** At the command **dress** the other carriages move forward or backward, preserving their intervals; the drivers cast their eyes to the right and dress on the drivers of the carriages established as a basis of alignment. The captain places himself on the right flank in line with the wheel driver of the base carriage, facing to the left; he quickly establishes the wheel driver of the leading carriage of the second section on the desired line, and then superintends the alignment of the other wheel drivers of the front-rank carriages. The first sergeant similarly superintends the alignment of the wheel drivers of the rear-rank carriages. The captain commands **front** when

the alignment is complete, at which command the captain and first sergeant resume their posts and the drivers turn their eyes to the front.

521. In horse batteries, at the command dress each gun squad aligns itself toward the side ordered, under the supervision of its gunner.

To March to the Front.

522. 1. **Forward,** 2. **MARCH.**

Executed simultaneously by all the carriages (**452**).

To Halt.

523. 1. **Battery,** 2. **HALT.**

Executed simultaneously by all the carriages (**453**).

To March by the Flank.

524. 1. **By the right (left) flank,** 2. **MARCH.**

All the carriages simultaneously turn to the right (**455**), the rear carriages taking the track and distance from the carriages which precede them in the new formation.

525. If the battery is in line, with closed intervals, the following modifications apply: The movement is successive; the section on the indicated flank begins the movement; the others take it up in turn so as to follow, at the proper distance, in the track of the carriages which precede them. If executed while marching, all the sections except the one on the indicated flank halt, and then resume the march so as to follow in their proper places in the column.

To March to the Rear.

526. By an about: 1. **Right (left) about,** 2. **MARCH.**

All the carriages simultaneously turn to the right about (**455**), the rear carriages taking the track and distance from the carriages which precede them in the new formation.

By a countermarch: 1. **Countermarch,** 2. **MARCH.**

The leading carriage of each section executes left about as just described; the rear carriages follow in the track of the leading carriage, and execute a left about on the same ground.

527. If the battery is in line, with closed intervals, the following modifications apply: The captain first commands: 1. **Right sections forward**, 2. **MARCH.** The right section of each platoon moves forward so as to clear the left section. If the captain orders an increased gait for the maneuver, the right sections take the gait indicated; if an increased gait is not ordered, the left sections reduce the gait 1°, or, if halted, they remain halted. As soon as the right sections are clear of the left sections, the captain gives the command for the about or the countermarch, which is executed by all the sections at the gait of the right sections. On the completion of the about or countermarch, the sections in rear increase the gait so as to reach their positions in line.

528. In horse batteries, in executing an about, if the pieces are in front, they reduce the gait slightly so as to follow the gun squads at 2 yards' distance; if the caissons are in front, they increase the gait slightly on completing the about, so as to follow the pieces at 2 yards' distance.

To March Obliquely.

529. 1. **Right (left) oblique**, 2. **MARCH.**

All the carriages simultaneously turn to the oblique (**455**). The carriages move in parallel lines. The lead drivers align themselves in each rank of carriages; the lead driver of each rear rank carriage also aligns himself upon the lead driver of the carriage corresponding to his own in the front rank. If these positions are properly maintained, the carriages should, on executing a second oblique in either direction, have the proper distances, intervals, and alignment.

To Change Direction.

530. 1. **Column right (left)**, 2. **MARCH.**

If in section column the leading carriage turns to the right through an angle of 90°. The carriages in rear follow and turn on the same ground.

If in double section or flank column the carriages on the side toward which the turn is made, execute the movement as

before. In each section, as the inside carriage begins the turn, the outside carriage increases the gait 1°, preserves its interval from the inside carriage and takes the gait of the latter on arriving abreast of it.

Column half right (left) is similarly executed.

531. Being in line: 1. **Battery right (left) wheel**, 2. **MARCH.**

The pivot section executes column right. The other sections by twice executing column half right place themselves on the line established by the pivot section.

Rule I governs the gait (**519**).

Battery right (left) half wheel is similarly executed.

To Execute a Passage of Carriages.

532. Being in line or in section column, to place the rear carriages in front: 1. **Pieces (Caissons) front**, 2. **MARCH.**

The carriages designated in the command are the rear carriages in the existing formation.

In each section the designated carriage inclines to the right, passes the other carriage, takes position in front of it, and continues the march; the carriage thus placed in rear then follows at the prescribed distance.

Rule II governs the gaits (**519**).

To Close or Extend Intervals in Line.

533. 1. **On (such) section**, 2. **To (so many) yards**, 3. **Close (Extend) intervals**, 4. **MARCH.**

The indicated section moves straight to the front; the other sections incline toward or away from the indicated section and move to the front when at the proper interval.

Rule I governs the gaits.

To Form Section Column to the Front from Line.

534. 1. **Right (Left) by section**, 2. **MARCH.**

The right section moves straihgt to the front. The other sections in turn, change direction to the right and follow in the column at the proper distance .

Rule II governs the gaits.

To Form Line from Section Column.

535. To the front: 1. Right (Left) front into line, 2. MARCH.

The leading section moves straight to the front. Each section in rear obliques to the right until opposite its place in line, when it obliques to the left, moves to the front, and takes its place on the line.

Rule I governs the gaits.

536. To the right (left): 1. Right (Left) into line, 2. MARCH.

The leading section executes **column right** and then moves straight to the front. The other sections move forward and successively execute column right, when, by so doing, they will be opposite their positions in line; they then move to the front and take their places on the line, to the right of the carriages which preceded them.

If, in the execution of the movement, the sections in rear move at a faster gait than the leading section, the second section in the column inclines to the right sufficiently to clear the leading section.

Rule I governs the gaits.

537 On the right (left): 1. On right (left) into line, 2. MARCH.

Executed as prescribed for **right into line**, except that the second section in the column inclines to the **left** in order to clear the leading section, and that each section passes beyond the preceding one before turning to the right; also that the leading section is habitually halted on advancing three carriage lengths after the completion of its charge of direction.

538. To form line at closed intervals, the captain commands: **At (so many) yards**, before giving the prescribed commands for forming line; the battery is then formed with the intervals prescribed.

To Form Flank Column from Section Column.

539. 1. **Flank column**, 2. **Right (left) oblique**, 3. **MARCH.**

The rear carriages of all the sections oblique to the right simultaneously, and then oblique to the left, when by so doing

they will have their proper intervals from the leading carriages. All carriages in rear of the leading one close upon the carriages which precede them in the column at the gait of the carriages which oblique.

Rule I governs the gaits.

To Form Line to the Front from Flank Column.

540. 1. **Right (Left) front into line,** 2. **MARCH.**

The carriages on the right of the column execute **right front into line,** as prescribed for a section column. The carriages on the left move by the right flank, and each forms in section column behind the right carriage of its own section.

Rule I governs the gaits.

To Form Line to the Flank at Closed Intervals from Flank Column.

541. 1. **At (so many) yards,** 2. **Right (left) into line,** 3. **MARCH.**

In each column the carriages execute right into line as prescribed for the sections in paragraph **536**, each section marching by the right flank in time to be opposite its place in line.

To Form Section Column from Flank Column.

542. 1. **Pieces (Caissons) front,** 2. **MARCH.**

The designated carriage of the leading section moves straight to the front; the other carriage of this section obliques toward the designated carriage in time to follow in its track at the prescribed distance. The remaining sections in the column execute the movement similarly, each carriage moving out in time to follow the preceding one at the proper distance.

Rule II governs the gaits.

To Form Double Section and to Resume the Previous Order.

543. Being in line or in section column: 1. **Double section,** 2. **Right (left) oblique,** 3. **MARCH.**

In each section the rear carriage inclines to the right and places itself abreast of the leading carriage at an interval of 2 yards.

If in section column, all carriages in rear of the leading one close upon the carriages which precede them in the column at the gait of the carriages which incline.

Rule I governs the gaits.

544. To resume the previous order: 1. **Pieces (Caissons) front,** 2. **MARCH.**

If in column, the designated carriage of the leading section moves straight to the front; the other carriage inclines toward the designated carriage in time to follow in its track at the prescribed distance. The remaining sections in the column execute the movement similarly, each carriage moving out in time to follow the preceding one at the proper distance.

If in line, the movement is executed simultaneously by all the sections.

Rule II governs the gaits.

545. Being in flank column: 1. **Double section,** 2. **Right (left) oblique,** 3. **MARCH.**

In each section the right carriage moves or continues straight to the front, the left one inclines sharply to the right, and moves up abreast of the right carriage at 2 yards interval.

Rule I governs the gaits.

546. To resume the previous order: 1. **Flank column,** 2. **Right (left) oblique,** 3. **MARCH.**

In each section the left carriage moves or continues straight to the front, the left one inclines sharply to the right and then moves up abreast of the left carriage at the prescribed interval.

Rule I governs the gaits.

547. The section being formed in double section retains that formation until again formed in section or flank column, and is maneuvered as if it were a single carriage. In executing the turns the pivot carriage executes the movement as heretofore prescribed; the other carriage conforms to the movement of

the pivot carriage, increasing the gait so as to arrive abreast of the latter without delay.

The double section line or column is maneuvered as explained for the normal order in line or in section column, with the exceptions made necessary by the difference of formation. The carriages retain their relative order until they are again formed in the normal order in line, in section column, or in flank column. The posts of individuals are analogous to those prescribed for the order in line or column.

Passage of Obstacles.

548. If, while maneuvering or marching, an obstacle is encountered by any subdivision, its chief, without waiting for orders, gives appropriate commands for avoiding the obstacle and for resuming the original formation as soon as the obstacle is passed.

SECTION IX.—TO SUBDIVIDE THE BATTERY FOR ACTION.

549. Before unlimbering the guns for action, the battery is subdivided into firing battery and combat train (**478**).

550. To subdivide the battery and prepare it for action, the captain commands: **PREPARE FOR ACTION.**

The carriages of the firing battery are at once prepared for action, as explained in Firing Instruction. Each chief of platoon inspects his unit and reports to the captain whether or not all parts of the material are in working order. The reconnaissance officer and the combat-train commander report to the captain for instructions.

The subdivision is ordinarily effected in rear of the position to be occupied. If the guns have to be moved a considerable distance or over rough ground to reach the position, the panoramic sights and range quadrants are replaced in their cases, and are again placed in their seats when the position is reached. As the guns are moved forward to their position, the combat-train commander posts the combat train under cover in the general locality indicated by the captain.

The first caisson of the fifth section is habitually unlimbered on the right of the line of guns, the second caisson on the left. Depending upon the nature of the ground and the circumstances of the case, the fifth section may either follow the remainder of the battery toward the position for action and take post under the direction of its chief in the most convenient manner, or, at the subdivision for action, the caissons may take post on the proper flanks of the battery, accompany it to the position, and unlimber simultaneously with the guns. In the absence of special instructions from the captain the chief of the fifth section adopts the measures best suited to the immediate case. One or both caissons may be unlimbered in rear of the line under cover, depending upon the nature of the ground and the character of the action. If practicable, the captain uses the caisson on the windward flank as his observing station.

If it is desired to subdivide the battery without preparing for action the captain gives the necessary instructions.

SECTION X.—TO FORM IN BATTERY AND TO RESUME A MARCHING FORMATION.

General Provisions.

551. The double section line and the double section column are the habitual formations preliminary to taking the order in battery. The double section line is adapted to unlimbering for action either to the front or the rear; the double section column, to unlimbering for action to the flank. By suitable maneuvers the battery is placed on the desired ground in the appropriate formation before the commands for unlimbering are given.

552. When unlimbering to fire projectiles, or for the practice of fire discipline, the captain and the chiefs of platoon and section dismount. The captain's horse is held by one of the musicians, the horses of the executive and his assistant by another. Each chief of section passes his reins to the swing driver of his piece; these horses are led off with the limbers, and are returned in like manner on limbering after action.

Other individually mounted men habitually dismount when their duties require them to remain with the firing battery. The horses are held under cover.

553. In horse batteries, the cannoneers, except horse holders, dismount at the command **Action front (rear, etc.)**, link their horses and run to the carriages. The horse holders follow the limbers and post the led horses in rear of the caisson limbers.

554. In active service and in instruction simulating it, the limbers are habitually placed under cover in the vicinity of the guns, and generally on the flank. At ceremonies limbers are placed in rear of their carriages. If the captain desires the limbers to be posted under cover, he indicates, before giving the commands for unlimbering, the position they are to take.

555. When posted elsewhere than in rear of the guns, the limbers are formed so as to take the best advantage of cover, generally in double section line faced toward the enemy, and with intervals of about 20 yards between limbers of adjacent sections. If unlimbered from line, the limbers of each section execute a left about and move straight to the rear; if from column, they turn toward the rear of the position. After thus clearing the front of the position, they form in double section column at the command or signal of the first sergeant and are conducted by him to the place designated by the captain, where they are formed right or left into line, as the case may be. If the position is to be occupied for a considerable time, the first sergeant may dismount the drivers and allow them to stand at rest.

If the horses are heated and the air is chilly, the teams should be put on a circle and walked to cool them out whenever practicable.

556. If the limbers are posted on the flank of the battery, at the command or signal for limbering, they file off from the flank nearest the battery and move in section column toward it; on approaching the position, the piece and caisson limbers separate and form in two columns, each column being directed toward the trails of the corresponding carriages.

As soon as the fifth section caissons are limbered, the chief of this section assembles his section on the proper flank of the battery and in a formation similar to that of the remaining sections of the battery.

557. In unlimbering, the limbers habitually move to their posts at a trot. In limbering, they move at a walk, unless an increased gait is ordered.

558. Before unlimbering effort should be made to place the battery in position so that the guns, when unlimbered, will be approximately aligned with uniform intervals.

To Fire to the Front.

559. Being in double section line, the caissons on the left of their pieces: **ACTION FRONT.**

Executed as prescribed in paragraph 199.

To Fire to the Rear.

560. Being in double section line, the caissons on the right of their pieces: **ACTION REAR.**

Executed as prescribed in paragraph 200.

To Fire to the Flank.

561. Being in double section column, the caissons on either flank of their pieces: **ACTION RIGHT (LEFT).**

Executed as prescribed in paragraph 201.

To Limber to the Front and Rear, and to March.

562. 1. Limber, 2. **FRONT AND REAR.**

Executed as prescribed in paragraph 202.

After limbering to the front and rear, the teams of each section face in opposite directions.

563. To march in line: 1. Pieces (Caissons) front, 2. **MARCH.**

The carriages designated move straight to their front; the others execute a right about and quicken the gait so as to follow in section column the carriages of their own sections which precede in the movement.

564. To march in column to the flank: 1. Flank column, 2. Pieces by the right (left) flank, 3. MARCH; or, 1. Double section, 2. Pieces by the right (left) flank, 3. MARCH.

All the carriages move by the flank in the indicated direction, the caissons so regulating the gait as to place themselves abreast of their pieces in flank column or double section, as the case may be.

To Limber to the Rear, and to March.

565. 1. **Limber,** 2. **REAR.**

Executed as prescribed in paragraph **203.**

After limbering to the rear, the teams all face in the same direction.

566. To march in line: 1. Pieces (Caissons) front, 2. MARCH.

The carriages designated move straight to the front; the others follow their proper carriages in section column.

567. To march in column to the flank.

Executed as prescribed in paragraph **564.**

To Form Double Section Line After Limbering.

568. 1. **Form double section line,** 2. **MARCH.**

If the battery has been limbered front and rear, the caissons stand fast; each piece inclines to the right, executes a left about, and places itself in double section on the right of its caisson.

If the battery has been limbered rear, the caissons stand fast and each piece moves up and places itself in double section on the left of its caisson.

CHAPTER II.—THE BATTALION MOUNTED.

SECTION I.—ORGANIZATION OF THE BATTALION.

569. The battalion is organized on a war or peace footing as shown in the **Tables of Organization.**

The number and principal duties of the field, staff, and enlisted men belonging to the battalion section of the Headquarters Company are as follows:

WAR FOOTING.

Personnel.	Number.	Remarks.
Major	1	Commands battalion.
Captain	1	Adjutant and reconnoissance officer.
Battalion sergeant major	1	Assistant to adjutant and reconnoissance officer.
Sergeant	1	Agent with regimental commander.
Corporals	5	3 scouts, 1 signaler and telephone operator at battalion headquarters, 1 instrument operator.
Bugler	1	Bugler and orderly.
Privates	9	4 scouts, 1 assistant to signal corporal, 2 drivers for reel cart, and 2 orderlies and horse holders.

All the personnel are individually mounted except the drivers and the assistant to the signal corporal (reel-cart operator) and belong to the Headquarters Company.

SECTION II.—FORMATIONS OF THE BATTALION.

570. The normal formations of the battalion are: **The order in line, the order in section column, the order in flank column,** and **the order in battery.**

The individual batteries are formed in each case as heretofore prescribed; and, in each case, the formation of the battalion is analogous thereto.

571. In the normal order, the interval between batteries in line or in battery is twice the interval between the sections of the batteries. The distance between batteries in section column or flank column is carriage length.

572. If the battalion is formed in column, with its batteries each formed in the order in line, the formation is termed a **column of batteries.** The distance between the batteries is equal to the battery front, when at full distance; it is carriage length when at closed distance. When the battalion is in column of batteries at closed distances it is said to be **closed in mass.**

573. If the battalion is formed in line with its batteries each formed in the order in section column, or the order in flank column, the formation is termed a **line of section columns** or a **line of flank columns.** Full interval, in this case, is such as would result if the batteries had executed a simultaneous change of direction to the right or left from a formation of the battalion in the order in section column or the order in flank column; closed interval is carriage length or such as the major may prescribe.

574. At formations of the battalion, batteries habitually take their places from right to left in line, from front to rear in column, in the order of rank of their captains.

Batteries whose captains are absent take their places in line or column according to the relative rank of the officers present in command of them. A battery whose captain is absent for a few days only retains its place, according to the rank of the captain, unless otherwise ordered by the major.

After the formation of the battalion no cognizance is taken of the relative order of the batteries. On marches the order of the batteries in column is varied from day to day.

SECTION III.—POSTS OF INDIVIDUALS.

575. At ceremonies the major is opposite the center and 30 yards in front of the line of captains if in line, or in front of the captain of the leading battery if in column. On other occasions he places himself where he can most readily observe and direct his battalion. The commissioned staff is posted two yards in rear of the major in order of rank from right to left. The sergeant major, the noncommissioned agents and scouts, and the signaler, when the battalion reel cart is not present, are formed in line in the order given from right to left, two yards in rear of the commissioned staff. The bugler, the mounted orderlies, and the privates of the headquarters company, in the order named from right to left, are in line two yards in rear of the noncommissioned officers. The battalion reel cart is posted 10 yards to the left of and with the heads of the lead horses

in line with those of the noncommissioned officers. The corporal signaler is boot to boot with the lead driver. The private is abreast of and two yards outside of the left rear wheel of the cart.

SECTION IV.—TO FORM THE BATTALION.

576. To form the battalion in line, the adjutant causes adjutant's call to be sounded; the adjutant and sergeant major proceed to the selected ground and post themselves facing each other a few yards outside the points where the right and left of the right battery of the battalion are to rest.

The batteries approach the line from the rear and are posted in succession from right to left by their captains, so that the heads of the lead horses will be on the line established by the adjutant and sergeant major. After halting his battery, each captain aligns it toward the right (**579**).

When the battery that arrives first on the line has been established, the sergeant major joins the battalion noncommissioned staff.

The line being formed, the major and his staff take post facing the center of the battalion. The adjutant then moves at a trot or gallop by the shortest line to a point midway between the major and the center of the battalion, halts, facing the major, salutes with the hand, and reports: **Sir, the battalion is formed.**

The major returns the salute with the hand.

The adjutant then takes his post with the battalion staff.

577. The battalion may also be assembled in any other convenient formation. In such cases, as soon as the last battery has taken its place, the adjutant joins the major and reports to him that the battalion is formed.

578. Officers draw and return saber with the major. At ceremonies, sabers are habitually drawn.

579. To align the battalion.—To effect a general alignment the major causes one of the flank batteries to be established in the desired position, and commands: **1. By battery, 2. Right (Left); 3. DRESS.**

Each captain, in turn, commencing with the battery first posted, aligns his battery (**520**) toward the flank designated, and commands **Front** when the alignment is complete.

The captain and first sergeant of the battery first established superintend the alignment from the flank of their battery nearest the point of rest. The captain and first sergeant of each of the other batteries superintend the alignment from the flank of their battery farthest from the point of rest.

580. To dismiss the battalion.—The major commands: **Dismiss your batteries,** or sends appropriate instructions to the captains. Each captain marches his battery to its park and dismisses it.

SECTION V.—MANEUVERS OF THE BATTALION.

581. To reach the position for action at the proper time and to occupy it skillfully are the objects to be aimed at in training in maneuver.

The actual occupation of the position is not, as a rule, effected by a formal maneuver of the battalion as such, but rather by the separate movement of the individual batteries to the positions assigned them, to the end that all possible advantage may be taken of the cover and concealment afforded by the ground.

Formal maneuvers of the battalion, as such, are consequently of limited application.

For passing from one formation to another, and for the simple evolutions requisite for ceremonies and the ordinary incidents of service, the battalion is maneuvered in accordance with the principles heretofore prescribed for a single battery and by similar commands. In the case of simultaneous movements, such as marching to the front, to the flank, to the rear, obliquely, etc., the command or signal of execution of the major is immediately repeated by the captains and simultaneously executed by the batteries. In the case of successive movements, the captains maneuver their batteries so as to cause them to arrive at their proper positions by the shortest route and in conformity with the principles of the rules of gaits (**519**).

582. The commands of the major are transmitted by couriers, or given by arm, saber, or bugle signals, or by word of

mouth. The captains habitually repeat the commands of the major, or give such commands as may be necessary to insure the execution of the movement. Their commands are given by arm or saber signal, or by word of mouth. The whistle, and not the bugle, is habitually used to attract attention to the signals of the captain during the evolutions of the battalion.

CHAPTER III.—THE REGIMENT MOUNTED.

SECTION I.—ORGANIZATION OF THE REGIMENT.

583. The regiment is organized on a war or peace footing as shown in the **Tables of Organization.**

The numbers and principal duties of the field, staff, and enlisted men belonging to the regimental section of the Headquarters Company are as follows:

WAR FOOTING.

Personnel.	Number.	Remarks.
Colonel	1	Commands regiment.
Lieutenant colonel	1	Such duties as may be assigned him by the colonel.
Captains	3	1 adjutant and reconnoissance officer, 1 quartermaster, 1 commissary.
Chaplain	1	
Veterinarians	2	
Sergeant major	1	Assistant to adjutant and reconnoissance officer.
Color sergeants	2	
Sergeant bugler	1	Orderly and bugler for regimental commander.
Sergeants	2	1 in charge of scouts, 1 signaler and telephone operator at regimental headquarters.
Corporals	4	2 scouts, 1 instrument operator, 1 signal corporal.
Mechanics	5	2 horseshoers, 1 saddler, 2 mechanics.
Privates	9	4 scouts, 1 assistant to signal sergeant, 2 drivers, and 2 orderlies and horseholders.
Bugler	1	Bugler and orderly.

All the personnel are individually mounted except the drivers and the assistant to the signal sergeant (reel-cart operator) and belong to the Headquarters Company.

SECTION II.—FORMATION OF THE REGIMENT.

584. The formations of the regiment are similar to those of the battalion, the intervals and distances between battalions being normally twice those between batteries.

585. If the regiment is formed in line with its battalions each in column of batteries closed in mass, the formation is termed a **line of masses.** The normal interval between battalions in this case is two carriage lengths.

586. At formations of the regiment, battalions normally take their places from right to left in line, from front to rear in column, in the order of rank of the battalion commanders.

Battalions, whose permanent commanders are absent, take their places in line or column according to the relative rank of the officers present in command of them. A battalion whose permanent commander is absent for a few days only retains its usual place unless otherwise ordered by the regimental commander.

After the formation of the regiment no cognizance is taken of the relative order of the battalions.

SECTION III.—POSTS OF INDIVIDUALS.

587. At ceremonies the colonel is 60 yards in front of his regiment, opposite the center. On other occasions he is where he can best observe and direct his regiment.

The lieutenant colonel is on the right of the commissioned staff; during field movements and on the march he is not restricted to any particular post; the commissioned staff is two yards in rear of the colonel, the adjutant on the right, the others in order of rank from right to left.

The noncommissioned staff, the headquarters detachment, and the reel cart are posted as prescribed in paragraph (**575**).

SECTION IV.—TO FORM THE REGIMENT.

588. The battalion commanders are notified as to the time, place, and order of formation of the regiment. Each forms his

battalion at the time and place designated, and in the order prescribed.

For line formations the adjutant indicates to the major of the first battalion the point of rest and the line on which the regiment is to be established; he then takes post about 30 yards in front of the center of the regiment.

The line being formed, the colonel, the lieutenant colonel, staff, etc., take post facing the center of the regiment.

The adjutant then brings the regiment to attention, if not already at attention, faces the colonel, salutes with the hand, and reports: **Sir, the regiment is formed;** the colonel returns the salute with the hand. The adjutant then takes post with the regimental staff.

The regiment may also be formed in any other convenient formation; in such cases, as soon as the last battalion has taken its place the adjutant joins the colonel and reports to him that the regiment is formed.

SECTION V.—MANEUVERS OF THE REGIMENT.

589. The colonel causes his commands to be transmitted to the battalion commanders, and the latter maneuver their battalions according to the principles heretofore prescribed, so as to place them in the desired formation at the proper time and place.

The commands of the colonel may be given by a bugle, arm signals, or voice, but as a rule they are conveyed by couriers.

PART V.

CARE, CONDITIONING, AND TRAINING OF HORSES.

CHAPTER I.—GENERAL PRINCIPLES.

590. It is essential that the field artillery officer have a thorough and practical knowledge of how to care for, condition, and train the horses under his charge. Herein lies his chief value as a horseman. Deficiency in this knowledge will result in needless and avoidable wastage of horses in time of war.

A horse requires intelligent care in order that his health and strength may be preserved; he must be in hard and physically fit condition, else the amount of useful work he is able to perform will be greatly reduced and his power of resistance to injury and disease lowered; and he requires careful training in order that he may work intelligently and obediently and with the minimum expenditure of muscular and nervous energy.

Officers should make themselves thoroughly acquainted with the natural history and physiology of the horse, and with the effects of different methods of treatment, changes of diet, etc., upon his system and powers of endurance.

They should have a familiar knowledge of the symptoms and methods of treatment of diseases that are common to horses, what to do in emergencies, and a good knowledge of the effects of the medicines issued. They should also possess a practical understanding of the principles of horseshoeing.

An officer in charge of horses must carefully instruct his men in the treatment, stabling, management, watering, feeding, grooming, and exercising of the horses, and by continuous supervision and inspection assure himself that his instructions are thoroughly understood and fully carried out.

CHAPTER II.—CARE AND CONDITIONING OF HORSES.

SECTION I.—RULES FOR THE CARE OF HORSES.

591. All drivers and all individually mounted men will be taught and must thoroughly understand the following rules for the care of horses:

Horses are nervous animals, and for that reason require gentle and quiet treatment. Docile but bold horses are apt to retaliate upon those who abuse them, while persistent kindness often reclaims vicious animals.

Before entering a horse's stall and when coming up behind him speak to him gently, then approach quietly and without sudden or abrupt movement.

A horse must never be struck or threatened about the head. Such treatment quickly makes him head shy and renders his proper control difficult and exasperating.

Never kick, strike, or otherwise abuse a horse. On rare occasions punishment may be necessary, but it must be administered immediately after the offense has been committed, and then only in a proper manner with whip or spur and never in the heat of anger.

Before taking a horse out carefully examine him to make sure that he is fit for work.

1. See if he has eaten his food, especially his grain.

2. See if his breathing is normal; that is, quiet and without distended nostrils.

3. See that he is not resting a fore leg, a sure indication that something is wrong with it.

4. Note whether his droppings are normal.

5. Look him over, especially on the back and the shoulders, to see that there are no sores, lumps, or injuries to be rubbed and irritated by harness or saddlery.

6. Clean out his feet; see that there are no stones or nails in them; and see that his shoes are tight. A loose shoe greatly increases the concussion on the foot.

7. See if the horse goes lame on leading him out.

Give the horse an opportunity to drink before leaving the picket line or stable and before putting the bit in his mouth.

In cold weather warm the bit by blowing and rubbing it before putting it in the horse's mouth.

In taking a horse out, always walk him the first mile to start the circulation in his legs. Habitual disregard of this rule leads to foot and leg troubles that will render the horse unserviceable before his time.

Always walk the last mile, or farther if necessary, to bring the horse in cool and breathing naturally.

To be certain of no ill effects, a horse brought to the stable in a heated condition must be cooled out and dried before he is left tied up in his stall. To cool the horse walk him about slowly under a blanket if the air is chilly. Occasionally interrupt the walking by giving him a good brisk rub-down and two or three swallows of water. Walking is especially valuable, because this gentle exercise keeps the muscles moving slowly and so assists in working any excess of blood out of them and out of his vital organs. The brisk rubbing dries him and assists in bringing the blood back to the skin, and so aids in restoring the circulation to the normal. If the surface of the body becomes chilled or if the cooling out is too sudden the congestion existing in the lungs or in the feet may not be relieved, and pneumonia, laminitis, or other troubles will then result. A sudden stoppage of hard work is always bad for the feet and is very liable to result in laminitis. The water given in small quantities slowly cools the horse internally and so aids in sending the blood back to the surface and restoring the normal circulation and temperature. **The cooling-out process must always be a gradual one.** To throw water on any part of a heated horse is particularly dangerous.

Except as directed in the preceding paragraph, never water a horse when heated unless the exercise or march is to be resumed immediately; if the exercise or march is to be resumed at once water will be of the greatest benefit to the horse, no matter how heated he may be. But a horse should not be called upon to do fast work for at least a half hour after a big drink.

Never feed grain to a horse when heated or fatigued. Grain is a highly concentrated food that requires high digestive power. Abnormal temperature impairs the power of the digestive organs. If the animal has been worked to the point of fatigue, all bodily functions are for a time injuriously affected. For that reason he must be rested and his normal digestive power restored before concentrated food of any kind is given to him. On the other hand, hay, being a bulky food, will not hurt a horse however heated or fatigued he may be.

Never remove the saddle and blanket in such a way as to expose a wet back either to the hot rays of the sun or to a sudden cooling. The pressure of the saddle restricts the blood supply and so weakens the tissues of the back. In this condition a hot sun more readily burns or inflames the skin, while a sudden cooling contracts the blood vessels and prevents the proper return of the blood to nourish the tissues. In either case sores and swellings may result.

When the saddle is removed the back should be promptly rubbed and massaged to dry it and restore the circulation. If this is impossible the next best thing is to replace the blanket with the dry sides next to the skin and again put on the saddle, girthing it loosely.

After a long or hard march it is necessary to restore the circulation in the back very gradually, or sores and swellings are liable to result. To do this the girth should be slightly loosened and the saddle allowed to remain on the back for 15 or 20 minutes. The more gradually the circulation can be restored, the less severe will be the pain and swelling.

In hot weather, especially on the march, it is very refreshing to the horse to have his eyes, nostrils, dock, and the inside of his hind quarters sponged with cool water.

When the horse comes in wet with rain he should be scraped, then blanketed and his head, neck, loins, and legs rubbed. If the weather is cold an extra blanket should be put on for 20 minutes. The wet blanket should be changed when the horse dries.

Do not wash the legs. This practice is one of the surest means of causing scratches. The legs should be rubbed dry and bandaged loosely with thick bandages. Strips of gunny sacks are satisfactory for this purpose. It is far more important to have the legs warm and dry than clean. The best method of treating muddy legs in order to avoid scratches is to bandage them to keep them warm until they are dry and then brush them clean.

Never leave a horse for the night until he is thoroughly clean, especially around his legs, pasterns, and feet.

Individual men returning from mounted duty or pass will report their return to the stable sergeant, who will inspect each horse and see that he is properly cared for.

SECTION II.—STABLES AND STABLE MANAGEMENT.

592. A lieutenant of the battery is responsible to the captain for all duties in connection with the care of the horses, with the stables, and with the stable management (**32**). He is assisted by the stable sergeant who takes immediate charge of the stables, picket line and paddock, forage, and stable property in general.

The stable sergeant is responsible that the stables and their surroundings are kept at all times thoroughly policed and free from odors; he is usually assisted by one or more stable orderlies.

Sufficient men are detailed as stable police to perform the general police and to remove all manure as it is dropped, either in stables, on the picket line, or in the paddocks, during the day. The stable police also assist in the feeding, watering, and bedding of the horses.

593. Foul air and dampness are the causes of many diseases of the horse; hence the importance and economy of spacious, clean, dry, and well-ventilated stables.

It is impossible to give the horse too much fresh air even in the coldest weather. Stable windows should be closed only when it is necessary to prevent rain or snow from beating in on the animals. The stables should be considered as merely a shelter

from storms. The more nearly the air of the stables approaches the purity and temperature of the outside air, the more nearly are the stables adapted to the health and comfort of the animals.

A practical and satisfactory test that a stable is properly cleaned and ventilated is that, on entering it, the sense of smell detects no apparent change from the air outside.

594. The picket line should be established in the immediate vicinity of the stables. The floor of the picket line should be raised and trenches to carry off the rain should be provided so that the ground upon which the horses stand may be kept dry.

A horse prefers to stand with his fore feet lower than his hind feet, as this rests and relieves his tendons. Where horses are required to stand for long periods on the picket line the floor should be constructed so that this is possible.

Paddocks, with shade and water, should be provided near the stables; if there is no shade, shelter from the sun should be extemporized. The picket line and paddock should be sprinkled to keep down the dust; crude oil may be used to advantage. Racks for drying bedding should be provided near each stable.

The horses are assigned stalls and places on the picket line by sections, as nearly as practicable according to their usual place in the battery. The name and hoof number of the horse are posted over his place in the stall. Over the middle of each double stall occupied by a driver's pair are displayed the number of the section, the carriage, and the position of the pair in the team, as: **First: Piece: Wheel, or, Fifth: Second Caisson, Swing.**

595. Manure or foul litter must not be allowed to accumulate in or near the stables but must be carried to the manure heap daily.

In the morning stalls are cleaned and the stables policed under the direction of the stable sergeant, assisted by the chiefs of sections.

The bedding is taken up, carefully shaken out, and assorted. All parts of the bedding which can be used again are taken to the bedding racks and spread thereon for a thorough drying; parts which can not be used again are sent to the manure heap.

Special attention is necessary in this matter, as the allowance of straw, 100 pounds per month per animal, is insufficient under most favorable conditions. In the evening the dried bedding, mixed with such fresh bedding as may be necessary, is laid down. The bed must be soft and even with the thickest part toward the manger.

If practicable, all woodwork within reach of the horses should be protected with sheet metal or painted with a thin coat of gas tar; other woodwork and brick should be painted a light shade and then kept clean and free from dust.

Feed boxes must be kept clean; they should be washed from time to time with dilute vinegar and always after feeding bran mash or other soft food.

During the day, except in very cold or stormy weather, the horses, when not being used or fed, should stand at the picket line or in the paddocks. In hot climates, however, if there is not sufficient shade on the picket line or in the paddocks, it is better to keep the horses in the stables during the heat of the day.

Smoking in the stables is prohibited.

One or more covered lights should be provided in the stables at night.

Feeding.

596. Three principles should be adhered to in feeding:

1. Water a thirsty horse before feeding him.
2. Feed in small quantities and often.
3. Do not work a horse hard immediately after a full feed.

597. The water which a horse drinks passes almost immediately from his stomach into the small intestines and thence, in the course of a few minutes, to the caecum or blind gut, which is the reservoir from which it is absorbed and used by the horse as needed. To water a thirsty horse immediately after he has eaten causes a considerable portion of the contents of his stomach to be carried with the water into the intestines. As a consequence digestion is incomplete, there is avoidable loss of nourishment, and indigestion or colic may result.

598. The digestive organs of the horse are arranged to admit of leisurely feeding for long periods at a time. Thus a horse will graze 22 out of 24 hours. The fact that the stomach of a horse is small, the capacity of the functional stomach being only about 1¾ gallons, points to the necessity for frequent feeding in small quantities. The intestines, on the other hand, are very large and require a considerable bulk of forage to fill them. If bulk is withheld, horses will eat quantities of earth or sand or otherwise become depraved in appetite to fill up the void. A horse will not thrive if bulk of forage in the form of hay or other good roughage is not supplied him, even if highly nutritive food is given in abundant quantities.

A horse requires, roughly, about 2½ pounds of provender daily for each 100 pounds of live weight; that is, about 25 pounds for a 1,000-pound horse. Of this amount the proportion of grain to hay should depend upon the severity of his work. When the work is very light one-third of the allowance should be grain and two-thirds hay; when the work is very heavy two-thirds should be grain and one-third hay. The proportion varies between these limits according to the amount of work the horse is doing.

The daily allowance of oats, barley, or corn is 12 pounds, and of hay 14 pounds for each light artillery horse. It is 14 pounds of grain and 17 pounds of hay for each field artillery horse of the heavy draft type weighing 1,300 pounds or more. Substitutions of hay for grain or grain for hay are authorized, so that in garrison the horses of an organization may at all times be properly fed in accordance with the severity of their work.

The best substitute for the slow, continuous feeding natural to the horse is regular and frequent feeding. The value of regularity is abundantly proven by experience. The digestive organs become organs of habit, and perform their functions best if called upon to work at fixed and regular times. If not limited by other important considerations, five feeds daily would be better than three, the first one being not later than 6 a. m. and the last at 11 p. m., the other three so that the intervals be-

tween feeds are as nearly equal as the work may permit. In the service such frequent feeding is impracticable.

Artillery horses should be fed at least three times a day, at reveille, in the middle of the day, and at night. Ordinarily one-third of the grain ration is fed each time. Hay, if the horses are to work, is not fed in the morning, but about one-third of the ration should be fed at noon and the remainder at night.

599. Immediately after a full feed the stomach and bowels are distended. If hard work is given at once they press against the lungs and impede their power of expansion, thus leading to blowing and distress. Fast work should therefore be avoided after a full feed. Moreover, though such work rarely results in colic, it interferes with digestion to such an extent that looseness of the bowels occurs and the food passes through undigested and is wasted. Food remains in the stomach about 1½ hours. Fast or heavy work should therefore be deferred for from 1½ to 2 hours after a full feed.

600. A bran mash acts as a mild laxative and should be fed once or twice a week to stabled horses. A little dry bran mixed with the oats is of value in compelling more thorough mastication and prevents greedy animals from bolting their grain. In spring or early summer the animals should be grazed daily when practicable. A lump of salt should be kept in each manger.

Before feeding hay it should be thoroughly shaken out with a fork so as to get rid of dust and seed; it is also advisable to moisten the hay before giving it to the horse. The grain, if possible, should be run over wire screens or allowed to fall through the air to remove dust.

It is advisable to feed at least a portion of the allowance of hay before feeding the grain.

Grain should never be fed or placed in the mangers until it is certain that the horses are thoroughly cool.

In the morning horses are usually fed at or before reveille. The noon feed of hay is usually placed in the mangers while

the organization is at drill, but the grain is not fed until the horses are thoroughly cool. The evening feed is placed in the mangers after the stables have been thoroughly policed for the night.

All horses do not require the same amount of forage; the amount given each horse must be based, therefore, upon his individual requirements.

When forage can not be obtained, grazing should be required at every spare moment, especially early in the morning when dew is on the grass, but not if it is covered with frost.

All forage should be inspected by the lieutenant in charge to see that it is up to weight and contract specifications. A forage book, showing daily entries of all forage drawn, fed, and remaining on hand, together with the number of the public and private animals fed, will be kept by the stable sergeant and checked daily by the lieutenant in charge. All officers should be familiar with the characteristics of good forage and the manner in which it is commercially graded for contract specifications. To obtain this knowledge, officers should be encouraged to visit large commercial stables.

Barley possesses a husk so tough and indigestible that it should always be crushed before being fed, else a very great part of its nutrient value is lost.

Sudden changes in food are to be avoided. The digestive organs are frequently unable to accommodate themselves to a sudden change and scouring, constipation, or colic may result. If sudden changes become necessary, the ration of the new feed should be greatly reduced and then increased gradually to the full requirements.

Good oats weigh about 40 pounds to the bushel; barley about 48 pounds; corn about 56 pounds. Pressed hay weighs about 11 pounds per cubic foot.

The standard bushel in the United States contains 2,150.4 cubic inches. A cubic yard contains 21.69 bushels. A box 16 by 16.8 by 8 inches holds 1 bushel; a box 12 by 11.2 by 8 inches holds half a bushel; a box 8 by 8 by 8.4 inches holds 1 peck; a box 8 by 8 by 4.2 inches holds one-half peck or 4 quarts.

Watering.

601. Except when they are heated it is desirable that horses should have free access to water at all times. It is always best to water a horse so frequently that he will never be unduly thirsty. As frequent watering, however, is usually impossible it becomes necessary to water at stated times.

Horses should, if possible, be watered before feeding, or not until two hours after feeding. As horses rarely drink in the early morning, the watering must follow the feeding, but after the proper interval, if practicable.

A horse requires from 5 to 15 gallons of water daily; depending upon the temperature and upon the work he is doing. Except in very cold weather horses should be watered at least three times daily—in the morning, before the noon feeding, and before the evening feeding. In warm weather, water drawn from a cold well or spring should be allowed to stand long enough for the chill to pass off before the horse is allowed to drink.

602. A horse should be allowed ample time to drink his fill and not be led away the first time he raises his head from the water. This must be carefully explained to the untrained man who thinks, because a horse puts up his head to get his wind after his first fill, that he has finished. Horses are always led or ridden to and from water at a walk.

Stable Duty.

603. Mounted work, except as noted in paragraph **466**, will be followed immediately by stables; the horses are then thoroughly groomed and the harness and equipment cared for and put away in good order. The lieutenant in charge of Department B is present and in immediate supervision of this work. He is assisted by the first sergeant.

On Sundays or holidays the horses are thoroughly groomed once during the day. This is usually done at morning stables. The lieutenant in charge of Department B or some other officer of the battery is present at this time.

On days that the horses are worked morning stables are held before they go out. At that time each chief of section superintends the removal of manure and foul litter from his stalls or picket line, seeing that it is placed in piles convenient for carting away; he causes the drivers and individually mounted men of his section, after cleaning their stalls, to look over and carefully examine their horses to see that they are fit for work (591), and he causes each horse to be brushed clean of dirt or manure. The lieutenant in charge inspects the general condition of horses and stables at this time.

On returning from a drill or exercise and after a march the horses are unbridled, their collars and traces removed, and the girths loosened. The men then put on stable clothes, relieve themselves, and prepare for the work of caring for the equipment and grooming while the horses' backs are being cooled under the pressure of the saddle. After the bits and collars are cleaned the remainder of the harness is removed from the horses and disposed of deliberately, the necessary cleaning being done at the same time and in the most convenient manner. After the allotted time has been given for the care and disposal of the harness and equipment the horses are groomed and cared for.

The horses are habitually groomed at the picket line.

Under a noncommissioned officer, the horses of the battery commander's detail, the ninth section, and the supply section are groomed by their riders or drivers or detailed privates, two horses to each man.

Under the chief of section the horses of each other section are groomed by their drivers or riders or detailed cannoneers, two horses to each man. An absent chief of section is replaced by a caisson corporal.

The horses of officers are groomed by specially detailed men.

The men are marched to the horses, take the position of stand to heel at the direction of the first sergeant, and then begin work as soon as the first sergeant commands: **Commence grooming.**

604. Grooming is essential to the general health and condition of the domesticated horse. Horses improperly groomed,

with ragged manes, unkempt pasterns, feet improperly looked after, form an indication of an inefficient organization. Clean horses, properly harnessed and smartly turned out, add to the esprit of an organization and give a fair indication of its discipline and efficiency.

The principal use of the currycomb is to clean the brush. For this purpose a piece of hard wood with channels along its surface answers equally well.

The currycomb should never be used on the legs from the knees and hocks downward nor about the head, and when occasionally required to loosen dried mud or matted hair on the fleshy parts of the body it must be applied gently.

To groom the horse proceed as follows:

First clean the front legs, then the hind legs. They will thus have time to dry while the rest of the grooming is being done. Next, on the near side, with the currycomb in the right hand, fingers over back of comb and the brush in the left hand, begin brushing at the upper part of the neck, the mane being thrown to the other side out of the way; thence proceed to the chest, shoulders, back, belly, flanks, loins, and rump. In using the brush the man should stand well away from the horse, keep his arm stiff, and throw the weight of the body against the brush. The principal work of the brush should follow the direction of the hair, but in places difficult to clean it may be necessary to brush against it, finishing by leaving the hair smooth. After every few strokes clean the brush from dust with the currycomb.

Having finished the near side, take the brush in the right hand, the currycomb in the left, and groom the offside in the same order.

Having done with the brush, rub or dust off the horse with the grooming cloth, wipe about the face, eyes, and nostrils, arrange the mane and tail, and clean the dock. Finally go over the legs once more and clean out the hoofs. In cleaning the mane and the tail begin brushing at the end of the hair and gradually work up to the roots, separating the locks with the fingers so as to get out all scurf and dirt. Tails require frequent washing with warm water and soap. The skin under the

flank and between the hind quarters must be soft, clean, and free from dust.

Currycombs, cards, or common combs must never be applied to the mane or tail; the brush, fingers, and cloth are freely used on both.

The wisp is used when the horse comes in wet and also for stimulating the coat. It is made by twisting or plaiting straw into a rope. The ends are then bent together, cut off square, and rubbed on a board until they form a soft, even straw brush. The wisp should be worked forward and backward well into the coat, so that full advantage may be obtained from the friction. After finishing with the wisp the coat should be laid flat.

Hand rubbing is beneficial. When a horse has had very hard, exhausting work his legs should be hand rubbed and afterwards bandaged, taking care that the bandages are not tight. An exhausted horse should also be given stimulants and warm gruel.

The value of grooming is dependent upon the force with which the brush is used and the thoroughness of the other work.

Officers and noncommissioned officers should, by continuous personal supervision, see that the grooming is properly done.

No horse should be considered in order until he is thoroughly clean, his mane and tail brushed out and laid flat, his eyes and nostrils wiped or washed, and hoofs put in order.

The pasterns and that part of the mane where the crownpiece of the bridle rests should be neatly trimmed and the mane and tail plucked.

At each stable the horses' feet and shoes are carefully examined. Horses requiring shoeing are reported to the chief of section, who notifies the stable sergeant.

The sheath will be kept clean by washing, when necessary, with warm water and castile soap.

A horse should never be teased in grooming. It is bad practice to attempt to make an animal submit to rough or harsh grooming. To do so means that he will be provoked into kicking, striking, or biting, and perhaps confirmed in these bad

habits. If he objects to the use of the brush or currycomb, the hand or cloth should be gently used instead. Careful work will usually win the animal into submitting to the proper use of the grooming tools.

The object of grooming is not merely to clean the coat. The skin must be rubbed and massaged to keep the animal healthy and in condition. An abundance of friction applied to the skin when the horse returns from his work is of special value in keeping him healthy and fit.

Quick grooming is to be encouraged. Under ordinary conditions a horse should be thoroughly groomed in 20 minutes. On the other hand, at least that much time should be devoted to him. Each chief of section, after the necessary time has been devoted to grooming and after he has made a thorough inspection of every animal in his section and finds them all satisfactorily groomed, reports to the first sergeant and to the officer in charge: **First (such) section horses in order.** The officer, after making a general inspection of the whole section and a critical inspection of three or four of the horses selected at random, may, if the grooming is satisfactory, permit the chief of section to dismiss his men.

605. To confirm recruits in a thorough and systematic method of grooming, and to impress upon them the amount of time to be ordinarily devoted to the different parts of the horse, they are required to groom by detail during their instruction in The Soldier Mounted.

To groom by detail the instructor causes the men to stand to heel and commands: 1. **By detail,** 2. **COMMENCE GROOMING.** Clean and brush front legs from the knees down, rubbing under the fetlocks and around the coronets with the brush and hand; time, 2 minutes. 3. **CHANGE.** Same as at second command, the hind legs from the hocks down; time, 2 minutes. 4. **CHANGE.** On the near side, with currycomb and brush, groom neck, shoulder, arm, elbow, back, side, flank, loins, croup, and the hind leg to the hock; time, 4 minutes. 5. **CHANGE.** First on the near side, after finishing up on the offside, groom chest between the forelegs, the belly, and between the hind legs; time, 3 minutes.

6. **CHANGE.** Same as 4, on the offside; time, 4 minutes. 7. **CHANGE.** Brush head, ears, and throat; with the hand rub the throat and between the forks of the lower jaw; time, 1 minute. 8. **CHANGE.** Brush and lay forelock and mane; time, 2 minutes. 9. **CHANGE.** Brush out the tail; time, 2 minutes. 10. **CHANGE.** With the grooming cloth, or with a damp cloth or sponge if the parts are foul, wipe out the eyes and nostrils; wipe the muzzle, dock, sheath, and up between the hind legs; time, 2 minutes. 11. **CHANGE.** Clean out the feet; time, 2 minutes. 12. **CHANGE.** Complete any unfinished work. 13. **CEASE GROOMING.** 14. **STAND TO HEEL.**

Total time required for the horse, at least 24 minutes.

To facilitate supervision, the men must be required to change promptly at the command.

606. To judge the cleanliness of a horse, the hand may be passed the reverse way of the hair to get a view of the skin. When the points of the fingers are run firmly against the set of the coat, lines of gray are left on the coat of a dirty skin and the points of the skin are covered with scurf. Between the branches of the under jaw, under the crownpiece of the halter, at the bends of the knees and hocks, under the belly and between the forelegs and thighs are the places usually neglected when the work is not thorough and which should be looked at when the horse is being inspected.

607. Horses should never be hurried in turning around in their stalls. Should the stalls or driveway be covered with ice or be otherwise slippery, sand or litter should be sprinkled on them.

608. Horses are particularly terrified by fire. Should a fire occur in the stables they must be led, backed, or ridden out of the stable. If they are unwilling a coat or gunny sack should be thrown over their eyes. Care should be taken that they do not break back into the stables.

609. The lieutenant in charge should make it a point to visit the stables occasionally at odd times of the day. Horses' habits and peculiarities may be much better studied when the men are away than when grooming is going on.

610. Horses on sick report are under the immediate charge of the stable sergeant.

When a veterinarian is present, he should prescribe the treatment to be given sick horses and should inspect all sick horses at least once daily.

The veterinarian should also visit all the horses at least once a day, at one of the stated stables; he should be freely consulted as to minor ailments and as to means whereby the horses may be kept in fit condition.

In the absence of a veterinarian the sick horses are treated by the stable sergeant under the direction of the lieutenant in charge.

Shoeing.

611. Horses will be shod according to the principles outlined in the authorized manual.

All officers must understand the principles of proper shoeing and must supervise the work of the horseshoers, being especially careful to see that the knife is not used improperly.

The foot should be prepared so that it will approximate as nearly as possible to a state of nature and only such trimming is allowed as is absolutely necessary for the purpose of fitting and securing the shoe.

The knife must never be used on the bars or on the frog. The bars strengthen the hoof and assist in its expansion. Cutting, therefore, weakens them and prevents them from performing their function. The practice of using the knife to trim the bars or to cut a notch at the junction of the frog and bar at the heel always tends to produce contracted feet.

Never use the knife on flat feet or on the hoof of a horse that has been running barefoot.

Ragged parts of the frog may be cut away by careful use of the nippers.

With a flat foot it is frequently necessary to remove a part of the outer edge of the wall in order that the nails may be driven in the white line where they belong. This is the only case where it is permitted to rasp the outside wall. The outer coat-

Digitized by Google

ing of the wall and the layers of dead horn on the sole and frog serve to retain the moisture in the hoof.

The hot shoe must never be applied to the horse's foot under any circumstances.

When shoes are left on the feet too long, corns and other ailments are the result. Ordinarily a shoe should be replaced at least once a month. The lightest shoe that will last for this time is the best shoe. It should carefully follow the form of the foot, or if the foot is broken the shoe follows the original form of the foot. Its length is regulated by the bulb of the frog.

The ground surface of the shoe should be level and smooth, except for use in snow, when the ground surface should be concaved to prevent balling. That portion of the upper surface which presses against the bearing surface of the foot must be level, smooth, and accurately shaped to support it, and when the upper shoe surface is wider than the bearing surface the inner edge must be concaved to avoid excessive sole pressure. This is one of the most important requisites of correct horseshoeing. Concussion of the sole against the inner edge of the upper shoe surface invariably produces soreness.

612. One side of the shank of a horse nail is flat. The other side is concave and also has a bevel near the point. This bevel as it enters into the horn forces the point of the nail in the direction of the other, the flat, side. Therefore in driving a nail always hold it with the flat side toward the outside edge of the shoe.

Nails should come out at a height of not more than 1 inch from the bottom of the hoof.

613. In garrison, at the discretion of the colonel or of the commanding officer, the horses may be left unshod, but shoes will be kept ready for each horse.

Inspection of Shoeing.

The following examination should be made while the horse is standing on a level floor with the foot on the ground:

(*a*) Are the axes correct when viewed from the front and from the side?

(*b*) Does the shoe follow the outer line of the wall to the last nail hole and from there extend outward, allowing about one-eighth of an inch at the heel for expansion? Has the rule against rasping the hoof to fit the shoe been violated?

(*c*) Is the toe clip in the center properly made and properly seated?

(*d*) Are the nails driven at the proper height and proper distance apart? Have any old stubs been left in the wall?

(*e*) Are the clinches well turned and set in, of the proper size, and have they been smoothed off but not rasped sufficiently to weaken them?

The foot should be raised and the examination continued.

(*f*) Is the shoe of the proper size and weight; the last nail hole back of the bend of the quarter?

(*g*) Has enough horn been removed? Has too much been removed? Is the foot level?

(*h*) Does the shoe rest evenly on the wall, covering the buttresses, and showing no air space at any point?

(*i*) Is the shoe properly concaved so as to avoid pressure on the sole?

(*j*) Has the knife been used on the bars, sole, or frog?

(*k*) Are the nails well seated and of the proper size?

(*l*) Are the heels of the shoe correct in width and thickness and are they properly rounded without sharp edges or points? Is their length even with the bulb of the frog?

SECTION III.—CONDITION AND EXERCISE.

614. Condition means thorough bodily and muscular fitness for the work required. Although thorough fitness is essential, the standard to be aimed at is not that of the race horse, whose condition is at the maximum, representing, as it does, a maximum of food, a maximum of work, and a concentrated nervous energy which can not be indefinitely maintained at highest pitch. The quality of condition required for the artillery horse is shown in a horse well covered with flesh, well hardened on, without sign of running up light toward the flank, full of

spirits, capable of long-continued exertion without fatigue, and with a good digestion waiting on a healthy appetite. Such a state of bodily health can be almost indefinitely continued when once attained and allows some reserve of flesh and animal spirits to draw on when hardship comes.

Condition of this description must not be confounded with fatness. The fresh young horse from the dealer is fat, not fit; his muscles are soft and flabby, unable to stand severe exertion and rapidly fatigued. Although he is full of life at the beginning of the day, a very moderate amount of work will tire him.

615. The condition of the full-fed, hard-worked horse is said to be **hard**; that of the horse underfed and overworked, **poor**; that of the fat horse doing no work, **soft**.

616. Every injury to the back, shoulders, or other parts of the body due to harness or saddlery is brought about by friction or by pressure or by a combination of the two. Friction rubs and so wears the part away; pressure partly or entirely cuts off the blood supply and so strangles the tissues.

A horse in hard condition has greater resistance to friction and pressure than one in soft condition. The evil of soft condition or poor condition is more readily shown by friction than by pressure. The horse in poor condition loses vitality and resisting power through hard work and insufficient food; the one in soft condition has great vitality, but it quickly evaporates and he has practically no resisting power at all.

In every function of a horse the question of condition presents itself. It influences lameness and sore backs, it is the basis of staying power and resistance to disease.

617. The only way to get animals into condition is by the combination of sufficient good food and sufficient healthy exercise, continued over a long period.

The transformation of fat, flabby flesh into hard, tough muscle is a gradual process that can not be forced; a regular course of graduated exercise is the only way to accomplish it. This work should never be so severe as to fatigue the animal; the soft muscles will suffer to such an extent from the reaction of overexertion that an actual loss of flesh will result. Work-

ing tired animals when unfit is a fruitful cause of accident and disease. But once good, hard, muscular development has been attained, any work within reason will not only be performed without great effort but will continue to add to the quality of the condition already acquired. It is important to recognize this cumulative power of condition. It means that a good amount of work may be demanded from a seasoned horse, that it actually does him good, and that, while performing it, he will run less and less risk of accident and disease. Thrown entirely out of work for a considerable period, however, the conditioning process will have to be repeated, though not, perhaps, to the same extent. This must be particularly borne in mind when animals are taken into work after a run at grass or a long period of sickness.

618. At first the work should be light but, if possible, spread over a considerable time. A minimum of two hours daily, excepting Sundays, should be required. Much time should be spent in the open air daily, pure atmosphere having a good effect on the health and spirits.

619. The bulk of the work in conditioning a horse should be carried out at a slow pace. The conditioning exercise for the race horse may be considered ideal. To fit such an animal for the faster part of his preparation he is kept constantly on the move for 2 or 2½ hours in the morning; 2 or 3 miles being at the trot and canter, and for 1 or 1½ hours in the evening at the walk. Even when his faster work is in progress long walking is continued. Plenty of walking then, and a moderate amount of trotting should constitute the exercise for putting an artillery horse in working condition and for maintaining it. In the early part of the work the trot period should be of about 5 minutes' duration; this is gradually increased until, within 4 or 6 weeks, trot periods are of 20 minutes, which should rarely be exceeded. During any daily period the ratio of walk to trot should be about 4 or 3 to 1. The first mile should always be covered slowly, so that the horses can feel their feet, stretch their legs, and empty their bowels before they are called upon to trot. The last mile should also be

walked so that they return to the stables cool. To crowd much work into short time under the impression that it will add to condition can not be too strongly condemned; it does not harden muscle on the animal, but tends to reduce his flesh, to irritate his temper, and to render him liable to chill on return from work.

The latter part of the elementary training period should find the horses of a battery in thoroughly fit condition. During the drill period, while the cannoneers are getting their specialized training in the gun squads, the lieutenant in charge of Department B trains the drivers and conditions the horses. In employing the conditioning trots, it is desirable to put the drivers on a large circle with pairs unhitched and traces unhooked. The officer can then most favorably watch the riding of the men and the working of the horses. During the later drills by battery, the horses should not be permitted to stand idle when the guns are unlimbered, but should be worked at the walk or trot sufficiently to maintain or to add to the condition of the animals. The horses should be in their hardest condition when training in marching begins.

620. To produce the best results, the policy of full feeding and fair work must be adopted. No other combination will get the best out of the animal. A small ration and little work will keep him normal in appearance but plenty of food and sufficient work judiciously combined make the only routine which will really fit either the draft or riding horse for use in war. The correct adjustment of ration to work is a matter of practical knowledge which a book can not teach; it must be gained by observation and experience. When the work is light, as at the beginning of a young horse's training, half a grain ration is generally accepted as a standard on which to begin feeding, but a rule of thumb method should be avoided and each horse's needs considered; in no case should the ration be so small or the work so hard that a round and glossy sleekness disappears.

621. Thirst and sweating are very prominent features of the early stages of conditioning and are to some extent dependent on each other. Apart from the sweating which may naturally

be expected as the result of work, some young horses sweat very profusely from purely nervous causes, more especially when the work is conducted in a confined atmosphere.

It is not always possible to prevent every young horse sweating from the excitement of new lessons, particularly in the case of highly bred or excitable animals; but such outbreaks exhaust a horse more than a far greater amount of quiet work and should be avoided in every way.

Working in the open air in preference to a roofed school, absolute quietness of methods, the avoidance of long monotonous lessons, and the example of older, well-behaved animals quietly doing the same things are all valuable in keeping horses cool in body and temper; but there are instances where sweating can not be prevented, and thirst is a natural result. Thirsty horses are to be allowed to drink their fill; it is best that they should not be sweating, but the fact of their being hot need not be a bar to their drinking if care is taken to keep them on the move until cool and so prevent risk of chills. As their condition improves the keenness of their thirst will diminish.

The quantity and quality of the sweat are very generally and correctly taken as an index of condition. When the body is soft and flabby, slight exertion produces copious sweat of a soapy, lathery nature which dries slowly and frequently breaks out again. As the condition improves the amount of work required to make the skin damp increases and the sweat itself is less greasy and more watery in consistence, while it dries with rapidity and does not recur. There are, however, some free-sweating horses that lather freely even when in good condition. Weather has a great influence on the amount animals perspire, for whereas on a cold clear day it takes a lot of exertion to turn a hair, a damp, muggy morning will make them sweat freely.

622. On a march in hot weather a clinical thermometer is often of the greatest service, since the horse's temperature is the surest index of his fitness to continue work. The temperature of a horse under normal conditions is from 97.5 to 101.3° F. It rises with exertion. If this rise is small there is no danger,

but if it reaches 103 to 104 precautions must be taken. If there be a further rise to 105, work must be given up entirely.

SECTION IV.—CARE OF HORSES ON THE MARCH AND IN THE FIELD.

623. Unless the horses are in condition it is impossible for them to undergo the fatigue and exertion incident to any prolonged effort. It is therefore assumed that in peace the horses of a battery have been conditioned before they are called upon to make a march of any importance. In war soft remounts will be furnished perhaps almost continuously. Every effort must then be made to work and condition these horses during the course of active operations, or the mobility of the battery will be vitally impaired and the wastage of horse flesh unnecessarily increased. If under pressure of circumstances the working of unconditioned animals is necessary, the distances to be covered and the time occupied must be comparatively short, unless military necessities override all thought of loss or injury. In its effect upon the animal the length of a march is to be considered not only in miles, but also with regard to the number of hours the horse is under saddle or in harness. The latter consideration is frequently the more important. The advance of a column in service may be at the rate of 1 mile in four or five hours. Under such circumstances a 5-mile march may call for the exhibition of extreme endurance.

Experience tends to prove that six hours' reasonable work a day is good for a conditioned horse. Assuming favorable conditions, such as good roads, weather, proper feeding, etc., deducting 10 minutes for rest each hour, and at the trot and walk in the ratio of 1 to 3, a battery should be able to march about 25 miles daily with one day's rest in seven. It must be appreciated that unfavorable conditions, however, reduce this distance to an average of from 15 to 20 miles.

624. The horses should be carefully inspected before starting to see that they are fit for work. Special effort must be made to spare those not fit. Oftentimes it will be possible to vary the load in such a way as to spare a team. Thus, when the caissons

are empty it may be advantageous to transfer one of the caisson pairs to the piece.

625. The hour of start depends upon circumstances. As a rule it will be made about 1 hour after broad daylight. Both men and animals rest well in the early morning hours. In the dark, feeding arrangements are not satisfactory and saddlery and harness may not be properly adjusted. Night marches are slower and more fatiguing than those in day.

626. Keeping in mind the fatigue caused by the weight carried, irrespective of the distance traveled, the maintenance of a good average pace throughout the entire march is to be desired.

Provided it is not unduly hurried at any point, the quicker the march is completed the less fatiguing it is to both horse and rider. Under favorable conditions field artillery should be able to maintain a rate of 4 miles per hour, horse artillery 5 miles, over ordinary distances. For an occasional forced march, these rates may be slightly increased without danger of injury to the animals.

627. It is always a great advantage to vary the gait. No gait should be maintained so long without a break as to weary men or horses. Trot periods should never exceed 20 minutes. Frequently during walk periods where the roads are good, the drivers and individually mounted men are required to dismount and walk. This rests the horses by relieving them of the weight, and it also rests the men and relieves the strain on them by bringing into play muscles other than those exerted in riding. This is the best cure for lounging in the saddle. A man always rides better and with less effort to his horse if he has rested himself by walking for a time.

628. The first halt is made after marching about three-quarters of an hour and is about 15 minutes long to enable harness and saddles to be adjusted, men to attend to the calls of nature, horses to stale, etc. Judgment should be exercised in selecting the place for the first halt; it should not be made in a village or a place where the objects of the halt would be defeated.

629. As a rule after the first halt, one of 10 minutes is made each hour; that is, the battery marches for 50 minutes and then halts for 10. In very hot weather the halts must be longer and more frequent. Halts must also be frequent when the roads are hilly or difficult (**458**).

630. Horses on the march can not be held to their full capacity for work unless they are amply fed. Feeding on the march in peace and war are very different matters. In peace there is usually no sufficient reason why regularity of feeding should be interrupted. In war feeding a little at every opportunity should, if necessary, be practiced; thus at no time is the horse's stomach overloaded and at no time is it entirely empty.

On marches in time of peace, and when not prevented by other necessity in time of war, there should be regularity of feeding. When men and animals are held to a march long after their mid-day meal, they become peevish and irritable; some men are likely to abuse their horses or to punish them on the slightest provocation, while the animals fret and worry and needlessly waste their energy. It is while in this state of mind or condition of body that sores and injuries are most liable to be caused. Moreover, when camp is reached every one is tired and out of sorts, the animals are not properly cared for and their proper feeding may be neglected. It is always better to carry food for the men and grain for the animals and to halt promptly at the regular feeding time even though the camp selected may be near. Camp is then better made and the horses receive more careful attention.

With full allowance of grain and hay on a march, an effective and convenient plan of feeding is as follows:

At reveille, one-third the grain allowance; at mid-day, one-third the grain allowance; at stables, after watering, one-half the hay allowance; just after the grooming is finished about 5 p. m., one-third the grain allowance; at 11 p. m., one-half the hay allowance to be fed out by the picket-line guard. This serves to keep the horses quiet during the night. When the horses are on the picket line, one man from each section must constantly watch the horses of the section to make sure that

feed bags are not tossed off or torn and that each animal gets his grain. At feeding on the march, each man carefully watches his own horses.

631. The horses should usually be watered on the march whenever opportunity offers. If the weather is cool it is usually unnecessary to water before an early start as most of the horses will then refuse water. The principle of watering before feeding and not until 2 hours after feeding should be adhered to, if possible. In hot weather horses will drink copiously 2 or 3 hours after the evening feed of grain. Watering at this time does them great good. Thus, if the horses are fed at 5.30 p. m. it is of great advantage to water them between 8 and 9 p. m. This can usually be done without seriously disturbing the men or interfering with their rest.

If a mounted command has to march a long distance without water, so that it will be necessary to camp enroute, the animals are fed but denied water until just before starting, when they are permitted to drink freely. The command marches in the afternoon and does not encamp until it has accomplished at least half of the distance; it moves early in the morning to reach water.

Horses must be watered quietly and without confusion; the manner in which this duty is performed is a good test of the discipline of a mounted command.

The horses are led or ridden at a walk to and from the watering place. Crowding will not be permitted, nor will any horse be hurried or have his head jerked up from the water.

The horses are watered under the immediate direction of the senior officer or noncommissioned officer present. An officer should always be present when the horses of other commands are likely to be met at the watering places.

632. At all halts on a march, chiefs of platoon and section will personally see that the drivers attend to their horses as prescribed in paragraph **432**. Any injuries caused by harness and saddlery must be discovered and reported at once.

At the first stables after camp is reached, not only are the men required to report any injuries discovered on their horses,

but the lieutenant in charge of the horses must personally inspect the back and shoulders of every animal. Where injuries, no matter how slight, have occurred, the officer will direct and supervise a readjustment of the harness or saddlery. It must be thoroughly appreciated that each injury is due to a certain definite cause, which must be removed to produce no further effect. Practically no case will arise in which a little skill or ingenuity in readjusting parts of saddle or harness will fail to relieve the injured part. The man's bed blanket under his saddle, a shortened or narrower collar, or a lengthened or broadened one, will relieve injuries which, if neglected, might soon put the animal out of work.

Handrubbing is the best preventive of sore shoulders and backs. It massages the tissues and stimulates the circulation. It must be employed freely at halts and at stables after the march.

It is only by constant attention to these details on the part of officers and men that a battery can be kept fit to march day after day and be ready to meet any reasonable demands which the emergencies of active service may impose.

633. In temporary camps the animals are tied to picket lines stretched between the carriages. They are tied on the line so that the horses in each section stand together. Precautions should be taken to tie animals of mean disposition where they can not injure their neighbors by kicking or biting. In cold, wet, or windy weather, horses like to stand with their tails to the wind, and effort should be made to place the lines so that this will be possible. In hot weather endeavor should be made to get as much shade as possible; if the camp be permanent, shade for the lines must be extemporized. Continued standing in the hot sun will seriously debilitate the animals.

The sanitation of the picket lines in a permanent or semi-permanent camp demands constant attention. Ditches should be cut to allow them to drain easily and manure and foul litter must be removed daily. During the fly season the lines should once a week be sprinkled with crude oil or other inflammable material and burned off.

If the ground becomes sodden with rain or otherwise broken up, the position of the lines should be changed.

If there be an extreme range of daily temperature, horse covers are of value. The use of covers, however, is liable to abuse. A horse can stand great cold when properly acclimated. A cover saves feed, but its use makes the animal dependent upon it and renders him much more liable to colds and chills than if his coat had been entirely relied upon to afford him proper protection. Cold rains will tell on the condition of uncovered horses unless they get extra food.

CHAPTER III.—TRAINING OF ARTILLERY HORSES.

SECTION I.—OBJECT AND SEQUENCE OF INSTRUCTION.

634. The artillery horse is a combination saddle and draft animal. When received in the battery he has usually been ridden and broken to harness. Additional training is, however, necessary to fit him for his work in the artillery, since he must develop into a fairly good saddle horse and at the same time must learn draft in the artillery harness.

635. His training, therefore, is of two distinct kinds:

1. Training for saddle.
2. Training for draft.

The horse should be trained for saddle before his draft training begins.

SECTION II.—TRAINING REMOUNTS.

636. The time required to train thoroughly a remount for the artillery service depends upon so many conditions, such as the animal's age, condition, temperament, capacity and conformation, and the skill, zeal, industry, and ability of instructors and riders, that it can only be stated approximately. With young and undeveloped horses two years can be profitably employed. Recourse should then be had to a more extended system of training than can well be embodied in these regulations, and free use should be made of the knowledge and skill of the

graduates of the Mounted Service School. But in emergencies mature horses of good conformation and in excellent condition can be molded, in about three months' time, under competent instructors and riders into animals fulfilling fairly well the requirements of the artillery service. To meet such emergencies the following procedure is given.

When received in the regiment the remounts are placed under the care of the senior veterinarian and isolated for the minimum time necessary. They are then distributed to the batteries.

During the period of training the remount should always be ridden by the same rider. Training takes precedence over all other work except the instruction of recruits. The riders should be chosen for their love of horses and their patience and gentleness. All concerned in the training should be well instructed and skillful riders or there is no hope of success.

The various means of training are left to the initiative of the instructor, but they should all be based upon two fundamental principles, the winning of the horse's confidence and a methodical progression on the part of the rider, founded upon the association of sensations. He should never lose sight of the benefit to be derived from a training that progresses methodically and without haste.

The best test of the instructor's ability is the condition of the horses, the cleanness of their limbs, and their temper at the end of their training.

The instructor should constantly bear in mind these precepts:

Never begin work without being absolutely sure what is to be done.

Proceed in the horse's education from the known to the unknown; from the simple to the difficult.

Always use exactly the same effects to obtain the same results.

Remember that in the execution of every movement position should precede action.

Never ask anything of a horse while he is still under the impression of a preceding movement.

Never combat two resistances at the same time.

Never attribute to ignorance or bad temper of the horse the consequences of ignorance or lack of skill on the part of the rider.

Introduce the new feature near the end of a lesson; then caress the horse and dismount.

It is pertinent to these rules to remember that during the whole course of the education of the remount a little progress every day should satisfy; demand that, but no more.

Remounts are not to be considered completely trained until they are able to execute all that is required of them under saddle and in draft, and have been accustomed to firing, to the music of bands, to the fluttering of flags or pennons, and all other sights and sounds peculiar to military formations and evolutions. Advantage should be taken of every opportunity during work in the open to carry forward this training of the horse in fearlessness of sights and sounds to which he is not accustomed.

SECTION III.—TRAINING FOR SADDLE.

Work.

637. Work is most important in training. It develops the horse and keeps his health and temper in balance. If he does not work, he grows fat and becomes too playful, blemishes himself under his own weight, increased by his rider's, and spoils his mouth by struggling against the hand. Yet he should be in rather high condition.

His daily work should last fully an hour and a half. Indoor periods should not exceed half an hour.

Leading.

638. Leading by the side of steady, older horses during the first days is an excellent exercise for remounts. It accustoms them to strange objects and calms them. They should be led first on one hand and then on the other, so that the neck will not always be bent to the same side.

The Longe.

639. All horses should be well trained in work on the longe. The first lessons are so important that they should be given by the instructor himself, or by a noncommissioned officer of experience and proved skill. If well given, only a few lessons of short duration will be necessary.

The cavesson should be wide enough and well padded. It should be adjusted so that in work on the circle the eye on the side away from the trainer can not be injured; placed high enough not to hinder breathing; and, in order that its action on the horse's nose may not be violent, it should not have too much play.

The driving whip is held in the right hand when the horse works to the left and vice versa, the butt coming out on the side of the thumb. It is kept out of sight as much as possible, and only used to threaten or for light touches. It should never have a lash on the end.

The instructor holds the longe in his right hand about 18 inches from the horse's head; the other end, not coiled, but folded in convenient lengths, is held in the left hand. After patting the horse the instructor moves forward, pulling lightly on the longe, clucking at the same time to the horse; in this manner he moves with the horse around the riding hall or inclosure on straight lines and gradually sharpened curves. He stops frequently, saying **whoa**, pats the horse, and then passes to the right side, changes the longe in his hands and commences the same work with the right hand. When the horse moves forward at the cluck, stops at command, and moves willingly and without pulling, the instructor stops moving on straight lines, lets the longe slide a little, and puts the horse on a small circle of about two yards radius; he himself moves on a concentric circle, a little in rear of the horse's shoulders, so as to keep him moving. He often stops the horse, goes to him and pats him, and then moves him forward again.

The horse is worked on the circle to the other hand in the same manner. If he hesitates to move forward, the instructor

slips to the rear and toward the croup, while yielding the hand that holds the longe. If need be, an assistant may help him. The important thing is not to be abrupt with the horse and not to frighten him and run the risk of making him pull.

When the horse moves easily and quietly at the walk to both hands on the small circle, the rest of the training is easy.

The instructor makes the horse take the trot, and then the gallop; to quicken the gait he uses the voice or shows the whip; at first he always accompanies the horse in his circular movement, keeping in rear, abreast of the haunches; if he wishes to stop the horse he moves toward the shoulders and little by little reduces his own circle until he stands still.

The length of the radius varies with the increase of the gait. A slow trot on a small circle is an excellent exercise for the young horse, but the extended trot and the gallop on a cramped circle would be dangerous to horses whose joints are not strong.

If the horse tries to escape, yield slightly to his movement, then resist with the hand and bring him back little by little.

If he stops, point the whip toward the croup to make him move forward; if he cuts in on the circle, point the whip toward the shoulders to force him out.

If he pulls violently on the longe at the fast gaits, it is because the instructor has proceeded too fast in the beginning. Rest him often and begin the work again at the walk and slow trot on the small circle.

The early lessons may be made easier by using the corners of the riding hall. The wall may be useful in stopping a horse that is out of hand.

The voice, loud at first, should find the same obedience when used more gently.

The longe also transmits the instructor's will; by light horizontal oscillations, the horse is kept from the center; by more or less marked movements, his speed is reduced or he is stopped when he does not obey the voice.

If the work on the longe has been well directed, the horse should be calm and evenly gaited on the circle. Pass freely from one gait to another at the simple indication of the voice;

come toward or go away from the center according to the freedom given; in a word, be on the hand with the slightly stretched longe, as later he should be with a light tension on the reins.

Saddling.

640. When the horse is quieted by work and perfectly gentle on the cavesson, advantage is taken of that to teach him gradually to bear the girth, a lesson which, if given in the stable, might prove difficult. The saddle is first put on without stirrups or stirrup straps; the girth, quite loose at first, is tightened gradually during the work. When the horse is accustomed to the contact of saddle and girth, the stirrups are added and allowed to hang down on each side at the walk and trot in preparation for the first mounting lession. Saddling and mounting a young horse for the first time on the same day generally arouses his resistance.

Mounting.

641. The instructor selects, according to circumstances, the most opportune moment for giving the mounting lesson, always taking advantage of the calmness from fatigue at the end of the period of instruction.

This lesson may also be given during the work on the longe, but always after the horse has been quieted by exercise. The instructor personally directs the first lesson, which is given to each horse individually. The greatest gentleness and patience are here necessary.

Accompanied by an assistant, carrying a measure of oats if need be, he places himself squarely in front of the horse and pats him, taking hold of him only in case of necessity; the rider approaches the horse's head, pats him on the forehead, over the eyes, on the neck and haunches. He strikes the saddle, lowers and raises the stirrups, then takes the reins, leaving them very long. He mounts without hurry, but without hesitation. If during the lesson the horse moves out of place or backs away, the rider goes back to the head, draws the horse forward with the snaffle reins, and quietly begins again.

In putting his foot in the stirrup the rider is careful to point his toe down and not to touch the horse's side. He should not stop after raising himself in the stirrup, but should make the movement continuous. He should use the right hand in taking the right stirrup; in feeling for it with the toe he may frighten the horse.

In general he should avoid putting the horse in march as soon as he is in the saddle, lest the horse should learn to associate the forward movement with receiving the rider's weight.

It is best for the first few times to end the day's work with the mounting lesson and to send the horse to the stable as a reward.

If a horse is found very difficult, the instructor immediately puts him back on the cavesson.

The mounting lesson should be given on both the right and left sides. This instruction should be thorough. Absolute docility must be obtained even in the midst of noise and movement. However, it is well not to require too much at the very beginning.

Mounted Work.

642. Mounted work is carried on both out of doors and in the riding school. As soon as the young horse accepts his rider, his conditioning should be begun and continued without interruption and, whenever possible, take place out of doors. Although the young horse acquires his full strength most rapidly in the fresh air and on straight lines, the first lessons should be given in the riding school in order that the instructor may watch more closely and study better the men and horses, and thus avoid accidents.

The mingling of old horses with the remounts has a very good influence at the beginning.

The riding school is used also when the weather requires it. Advantage should be taken of these opportunities to give the remounts the first lessons in the aids.

The Aids.

643. Preliminary education in the aids is quite necessary to permit the horse to be handled out of doors. It consists in teaching him to move forward at the call of the legs, to slow up and stop at the pressure of the legs and tension on the reins, and to turn under their action. The basis of all training is **freedom in the forward movement.** From the first the horse must be taught **to respond to the legs.**

Bending Exercises.

644. To place the horse's head in position (to arch his neck correctly), the trainer, standing near the horse's right shoulder, takes the right rein in the left hand and the left rein in the right hand, the hands about four inches from the snaffle, plays with the bit and gently draws in the reins toward the withers as the horse drops his nose. When the horse relaxes the lower jaw by opening the mouth and carries in his head so that the face is nearly perpendicular to the ground and the muzzle level with the upper part of the shoulder, the trainer relaxes the reins and makes much of him.

To bend the neck to the right: The horse's head being in position, the trainer, dismounted, gently drawing in on the right rein, carries the horse's head a little to the right, the left hand supporting the effects of the right. The horse's head should be kept at a constant height. The trainer should be contented with a little progress at each lesson. Gradually and with the greatest patience and gentleness the horse is brought to carry his head around 90°, the face still remaining nearly perpendicular to the ground and the muzzle at the height of the upper part of the shoulder. The neck should not only be flexed (arched) at the poll but also bent to the right at the same place.

The horse's head should invariably be brought back into position, the movement being made smoothly and without haste, the hands regulating. The horse is then caressed.

These supplings are repeated mounted as soon as the horse understands what is wanted.

To Turn on the Forehand.

645. Executed as prescribed in paragraph **308.**

To Turn on the Haunches.

646. Executed as prescribed in paragraph **309.**

Backing.

647. Executed as prescribed in paragraph **307.**

In obstinate cases a little work dismounted is done. The trainer stands facing the horse's head, a snaffle rein in each hand. He starts to lead forward and, just as the horse moves, presses him to the rear with the bit; relaxes slightly and presses him again as each forefoot is to be moved. If the horse fails to move a foot, stepping on it may cause him to do so.

Two Tracks.

648. Work on two tracks is conducted as outlined in The Soldier Mounted. It must be appreciated that all two-track work is destructive of the draft effort, which is of first importance in training draft horses. To exert his maximum draft effort a horse must be absolutely straight, not oblique as in two-track positions. Two-track work is therefore to be employed but little in the training of the draft horse.

Section IV.—Training for Draft.

649. The object is so to train the horse that, when harnessed in any position in the team, he will perform his full part in moving the carriage completely equipped and loaded with ammunition over any terrain practicable for artillery, and will be at all times and under all circumstances under perfect control of the driver.

650. If difficulty is anticipated with the new horse, he should be led or longed harnessed before putting him in a team. In

either case a wheel harness should be used, as this accustoms him to the breeching.

When the harnessed horse is not attached to a carriage during training he should not be worked at a trot for such a length of time that the collar will bruise his shoulders or make him sore.

Before being placed in a team, the horse should have become accustomed to the pressure of the collar against his shoulders by means of ropes improvised as traces, and held by an assistant walking behind him. The assistant causes the pressure to be increased very gradually, being careful not to excite resistance by the horse.

When first hitched to a carriage the young horse should be placed in the off wheel. If placed in the swing, he is able to shirk and may be confirmed in that bad habit. Any sudden or violent action on the part of the driver that would cause the horse to jump against his collar must be carefully avoided, or the horse will bruise his shoulders and always fear the collar.

651. When the horse has become accustomed to his surroundings and manifests a willingness to pull his share of the load as off-wheel horse, he should then be used as off-lead and off-swing horse, and his training completed by working him in all positions on the near side. In all such training a caisson without ammunition should be used, and on level ground only.

652. When the horse works freely in any position in the team with an empty caisson on level ground, the difficulty of draft should be gradually increased by use of the brake. This training should be followed by work over more difficult ground and with loaded carriages (**450–463**).

Particular attention should be devoted to training the horse to climb steep hills; but care must be taken to avoid giving him tasks beyond his strength. This is especially the case with a spirited horse, which may easily, through errors of judgment on the part of the driver, be made into a balker. The most difficult haul is up a steep side hill, where the carriage slews.

All difficult tasks will be approached quietly, the driver avoiding any unnecessary noise or excitement.

PART VI.—CARE AND MAINTENANCE OF EQUIPMENT.

CHAPTER I.—GENERAL PROVISIONS.

653. The commanding officer of an organization is responsible that the equipment issued to him is kept complete and in good serviceable condition, and that his officers and men are properly instructed in the use of the tools and supplies issued for the care and preservation of public property.

654. The organization commander will require that as soon as possible after being used all articles of equipment shall be examined and, if necessary, repaired; and that the articles when left shall be in readiness for immediate use.

CHAPTER II.—CARE OF THE BATTERY EQUIPMENT.

SECTION I.—RESPONSIBILITY.

655. The **captain** is responsible for the care and maintenance of the battery equipment. He will constantly supervise the work of lieutenants and other subordinates charged with responsibility for the condition of parts of this equipment.

The **lieutenant** assigned to Department A (**32**) has direct charge of and is responsible to the captain for the good order and efficiency of all parts of the wheeled matériel; the one assigned to Department B, of the horses, harness, and horse equipment; the one assigned to Department C, of the personal equipment.

The **supply sergeant** is responsible to the captain for the general care and maintenance of the Government property issued to the battery.

The **chief mechanic** is responsible to the lieutenant in charge for the good order and repair of the matériel in actual use by

the battery; for this purpose he has general supervision of all battery mechanics, except those assigned to horseshoeing, and during cleaning periods, of all corporals and privates engaged in work in the matériel.

The **chiefs of section** are responsible to the lieutenant in charge for the good order of all matériel and equipment issued to their sections. They are directly responsible for the serviceable condition of their teams, harness, and horse equipment.

The **gunners** are responsible to their chiefs of section for the good order of their pieces and caissons. They are directly responsible for the good order of the pieces.

The **Nos. 4** are directly responsible to their gunners in gun sections, to their chiefs of section or the caisson corporal in charge of caissons in caisson sections, for the good order of their caissons.

The **drivers** are directly responsible to their chiefs of section for the good order of their horses, harness, and horse equipment.

The **instrument sergeant** is responsible to the captain for the good order of the range-finding, fire-control, and signal equipment.

The **telephone corporal** is responsible to the instrument sergeant for the good order of all the signal equipment of the battery.

Members of the **special details** are responsible to the telephone corporal for the good order of articles of signal equipment, to the instrument sergeant for the good order of other articles of the range-finding and fire-control equipment issued to them.

Individuals are directly responsible for the good order of all articles of personal equipment issued to them. Men assigned to sections are responsible to their chiefs of section for the good order of such articles.

It is the duty of all men to report at once to the noncommissioned officer, or officer to whom they are responsible, any injury to the matériel or any deficiency in the equipment.

SECTION II.—INSTRUCTION.

656. Field artillery matériel requires intelligent, system and constant care.

Correct instruction and frequent practice in this subjec the personnel to keep the matériel in serviceable condition to effect repairs promptly and satisfactorily.

Matériel, all parts of which are clean, correctly surfaced, in good repair, functions properly with the least possible v and permits the making of repairs without unnecessary del

Detailed descriptions of the matériel in use, with full structions for disassembling, assembling, cleaning, and ca for the same, are found in the Handbook of that matériel iss by the Ordnance Department. The noncommissioned officer the higher grades and all officers should be thoroughly fami with the contents of the Handbook.

657. Instructions in the care of matériel is practical. I carried on under the direct supervision of an officer in the p during the regular cleaning periods or at other times.

The instruction of cannoneers includes the following:

1. Nomenclature of the principal parts of the piece caisson;

2. Uses and care of tools and accessories;

3. Uses of the different materials issued for cleaning preservation;

4. Cleaning of carriages, of leather cases and straps, an canvas covers;

5. Principles of lubrication, and the lubricating of all p requiring it;

6. Disassembling and assembling those parts of the mat which periodically require cleaning and repair;

7. Making of minor repairs and adjustments;

8. Special cleaning required after firing;

9. Painting of carriages.

The instruction of drivers and individually mounted me cludes the care of harness and horse equipment.

The instruction of members of the battery commander's detail includes the care of the range-finding and fire-control and signal equipment.

Nomenclature.

658. The study of nomenclature may well be continued to include practically all parts of the piece and caisson if time permits.

The purpose of this instruction is not so much to memorize the exact names of the many parts as to call attention to their existence and to their relations with other parts; facts which otherwise easily escape notice. The knowledge gained stimulates interest and develops resourcefulness in making repairs.

Tools and Accessories.

659. As it can not be safely assumed that, without instruction, even the simplest tools will be used correctly by men not accustomed to working with them, it is necessary that instruction and practice be given in the uses and care of all tools and accessories with which the men may be called upon to work.

The **axes, hatchets, picks,** and **shovels** carried on the carriages are intended for use with the battery when in the field or when engaged in exercises simulating field service and will not be put to other uses. The working edges and surfaces will be kept bright and lightly oiled, the edges sharp if intended for cutting or smooth if for digging, and the handles painted.

Canvas buckets are used for watering animals and for washing carriages and equipment. If possible, they should be dried before placing them in the holders. To fold the bucket: Place the bottom of the bucket on the ground and hold the bottom in position with both feet; grasp the top with both hands and turn it either to the right or left so that the sides twist and fold.

The **laterns** carried on the carriages are used for illumination only when in the field. They will be kept clean, filled, and ready for use.

In the park, **paulins** are used to cover harness and guns; on the march as seat cushions. The paulin is square and is made

up of five strips of canvas of the same size. When used as a seat cushion it will be folded as follows: Spread the paulin on the ground and throw the ropes upon it; fold each outside strip upon the strip adjacent to it and continue to fold in this manner until the paulin is the size of a single strip; double it in the same direction; then fold both ends over, one falling above the other so that the folded paulin is one third the length of a strip; place on the chest with the exposed end down.

The metal ends of **picket ropes** will be kept free from rust, and the hooks sufficiently open to be readily engaged in the rings.

Tool kits will be kept complete and serviceable; edges of cold chisels free from nicks; drifts and punches properly shaped and files clean.

Copper wire is used to lash nuts and other threaded parts not secured by split pins to prevent unscrewing.

Special wrenches, spanners and other tools and accessories will be used only for the purposes for which intended.

Bolos are used only when in the field. The blades will be kept bright, sharp and well oiled; the scabbards clean.

Instruction will be given in different methods of using the **tackle blocks** and **rope**, and in making the common **knots** and **hitches.**

Carriages in use will be equipped habitually with all articles of their prescribed equipment. The battery wagon and store wagon are habitually kept packed. When convenient, however, the various chests contained therein may be kept outside the wagons for convenience in getting at their contents.

Materials for Cleaning and Preservation.

660. The proper uses of the supplies furnished for the cleaning and preservation of the battery equipment are set forth in detail in the Handbook of the matériel and in Ordnance Pamphlet No. 1965.

In general these materials are issued for the following purposes:

Oils and Greases.—Lubricating oil, sperm oil, clock oil, and petroleum or vaseline, for lubrication;

Light slushing oil and cosmic as rust preventives;

Coal or kerosene oil for the cleaning of metal parts and for lanterns;

Boiled linseed oil, raw linseed oil, and turpentine as ingredients of prepared paint;

Neat's-foot oil for softening and preserving leather;

Hydroline oil for filling recoil cylinders. This oil should be used for no other purpose.

Officers and men should be able to distinguish the different oils and greases by the color, smell, or viscosity.

The oil cans issued to a battery, their capacities, disposition, and contents are as follows:

	Coal oil.	Hydroline oil.	Lubricating oil.
	Gallons.	*Gallons.*	*Gallons.*
Three 5-gallon oil cans on battery wagon	5	5	5
Three 5-gallon oil cans on store wagon	5	5	5
Two tubular two-thirds gallon oil cans on forge limber	⅔	.....	⅔
Two tubular oil cans on store limber	⅔	.....	⅔
Forty-eight tubular oil cans, 3 in each limber, 1 of each kind of oil	10⅔	10⅔	10⅔
Four 1-pint horizontal oilers, 1 in each trail box	.....	.....	½
Total	22	20⅔	22½

Material for Painting.—Second coat and third coat olive drab paint for the wheeled matériel.

Brown enamel primer for painting horse collars, trace chains, etc.

Rubberine paint for sealing blank charges.

Sal soda for removing dirt and grease before painting.

Powdered lye for removing old paint.

Sandpaper for smoothing surfaces before painting.

Japan drier as an ingredient for hastening the drying.

Boiled linseed oil as an ingredient for hastening the drying and for making the paint more suitable for interior work.

Raw linseed oil as an ingredient for making the paint more suitable for outside work.

Turpentine for thinning paint.

Sash and varnish brushes for painting.

Miscellaneous Materials.—Borax as a flux in welding;

Camel's hair brushes for removing dust and lint from optical instruments;

Castile soap for cleaning leather;

Chamois skin as a wiping cloth for instruments except on the lenses;

Crocus cloth for polishing metal;

Emery cloth for cleaning metal by abrasion or wearing away of the surface;

H. and H. or Paco soap for cleaning cloth and web equipment;

Lavaline for polishing metal, such as bearing surfaces of collars, etc.;

Russet leather dressing for polishing leather after cleaning;

Saddle soap as a dressing for leather;

Soap polish as a substitute for lavaline;

Sponges: Large size for washing carriages, small size for cleaning leather;

Waste as a wiper for general cleaning;

Wax for rubbing on thread before sewing.

Cleaning of Carriages, Etc.

661. Frequent wiping or washing of all parts of the carriages is desirable not only for the purpose of keeping them clean, but also to aid in the detection of missing bolts, nuts, and split pins and of parts broken, cracked, or out of adjustment.

Buckets and sponges are habitually used for washing carriages. The use of a hose through which water is thrown forcibly against the carriage tends to wet parts which are not easily accessible for drying. When convenient, carriages may be hauled into shallow water for washing.

After washing, the carriages are dried with sponges or cloths.

Leather cases and straps are cleaned in a manner similar to that prescribed for harness (678–680).

Canvas covers are cleaned with water and H. and H. or Paco soap (689). Leather parts fastened to the covers should not be immersed in the water.

Lubrication.

662. It is of great importance that the matériel be kept properly lubricated. By that is meant the constant maintenance of a thin film of the proper lubricant between all working and bearing surfaces and the surfaces on which they work or bear. This film of lubricant is required in order that the parts may function easily and without unnecessary wear.

The frequency with which the various mechanisms and parts should be lubricated and the amount of lubricant that should be applied in each case can not be definitely prescribed; these depend upon the conditions under which the matériel is being used. It should be borne in mind, however, that too little oil causes far more waste and damage than too much.

Oil holes are provided at various places where the surfaces to be lubricated are not directly accessible. These holes should be cleaned out frequently. Except during oiling, they should be fully closed by the means provided. Before oiling at an oil hole wipe off carefully any dirt or grit near the opening that might be carried down into it by the oil.

Before applying fresh lubricant the old should, if practicable, be wiped from the surfaces and the surfaces should be clean and free from grit. While applying lubricating oil the mechanism is operated or the part is moved to insure the formation of a complete oil film between the surfaces, and care must be taken, especially when lubricating through an oil hole in cold weather, to see that sufficient oil actually reaches the proper surfaces. When oiling, cotton waste should be at hand and any oil that spills or runs upon surfaces where it is not required should be wiped up at once in order to prevent the accumulation of dust and dirt.

The men are practiced in lubricating the various mechanisms and parts, and are thus taught the location of the oil holes and other points where oil should be applied, and the proper methods of handling the oiler and waste.

Detailed instructions with reference to the uses of the various oils are contained in the Handbook.

Disassembling and Assembling.

663. In disassembling, if the parts can not be readily removed, the tendency of uninstructed men is immediately to use too great force. By teaching them to exercise patience and ingenuity, this tendency will be checked and the frequent breaking of parts avoided. Metal parts should never be struck directly with a hammer; a buffer of wood or soft metal should always be interposed. The disassembled parts should be kept together while being cleaned and should be reassembled as soon as possible.

In assembling, a thin coating of oil is applied to all unpainted metal parts, including especially the threads of bolts and nuts, in order to prevent the formation of rust and to aid in the next disassembling. At points where friction may be developed when the matériel is in use, a lubricating oil is used; at other points light slushing oil. All nuts are secured by split pins, which should be replaced and properly opened after the nuts are screwed home; threaded parts not secured by split pins are lashed with copper wire to prevent unscrewing.

Before assembling it is advisable to paint those parts requiring it that after assembling become more or less inaccessible. In so doing, however, care must be taken to see that no bearing surfaces are painted.

Repairs and Adjustments.

664. All cannoneers are taught to effect minor repairs such as the replacing of a worn-out brake shoe or of a damaged pole and to make simple adjustments such as the adjustment of the brakes.

The more difficult repairs are made by the mechanics and the noncommissioned officers.

Cleaning After Firing.

665. As soon as possible after firing, the bores of the guns should be cleaned with a solution of ingredients in the following proportion: One-half pound of sal soda to one gallon of boiling water. They are then dried carefully and oiled.

Also, the exploded primers should be removed from the cartridge cases and the cases washed by immersing them completely in a hot but somewhat weaker solution of sal soda; they are then dried carefully. Neither acids nor solutions of acids will be used for cleaning cartridge cases.

Painting.

666. Instructions with reference to the painting of the matériel are contained in the Handbook.

The object of painting the matériel are to aid in its preservation and to render it less visible when in the field.

Surfaces that become marred should be painted over without waiting for an opportunity to paint the entire carriage.

The number of coats of paint that should be applied in any period depends upon the conditions under which the matériel is being used.

SECTION III.—THE WHEELED MATÉRIEL.

667. In order to maintain the wheeled matériel in serviceable condition and to practice the men in its care, all parts are periodically disassembled, examined, cleaned, and assembled. For this purpose a schedule of systematic cleaning will be followed.

668. The cleaning schedule should be simple in operation; should set forth briefly the routine work to be done each day that the matériel is used, and the special work to be done from time to time; and the items of work included therein should be such that together they constitute a thorough overhauling of the

carriages. The operations at which the presence of a commissioned officer is required by the provisions of the Handbook are usually omitted from a schedule arranged for the use of enlisted men, such work being performed when specially ordered.

669. Work on the carriages during cleaning periods is performed under the immediate supervision of the lieutenant assigned to Department A (**82**).

The chief mechanic is in direct charge of the work. He is responsible that the requirements of the cleaning schedule are complied with; that the parts broken, cracked, worn, or out or adjustment are detected and promptly repaired; that the necessary materials and spare parts are obtained from the quartermaster sergeant; that the tools and cleaning materials are properly used, and that the carriages are left always in readiness for immediate use.

670. On each day that the carriages are used, two periods will habitually be designated for their care; one before the carriages leave park while the drivers are harnessing, the other during the first stables held after the return of the carriages to park.

671. At the first period, the gunners and the Nos. 4, assisted by other members of the gun squad, if present, look over their pieces and caissons, oil wheels, etc., and see that the carriages are in every way prepared for use.

672. At the commencement of the period held during stables (**608**) the gunners, the Nos. 4, and such other cannoneers as may be needed for the work at hand, assemble at the park where the chief mechanic notifies them of any special work required for the day. They then proceed with the regular cleaning and with the special work ordered.

The chief mechanic moves from carriage to carriage inspecting the work and assisting wherever needed.

At the close of the period he accompanies the lieutenant in a careful inspection of the carriages, and when so directed, sees that the park is put in order and that the men are dismissed.

At this work an absent gunner is replaced by the caisson corporal of the same section. In caisson sections, one caisson

corporal is placed in charge of the caissons of his section for cleaning. Other caisson corporals, not required elsewhere, are present and assist at the cleaning of the carriages of their sections.

673. If it is impracticable to care for the carriages during stables, other periods will be designated at which times the cleaning will be carried on in a manner similar to that described above.

SECTION IV.—HARNESS AND HORSE EQUIPMENT.

674. Constant care is required to keep the harness and horse equipment clean, serviceable, and in good repair, the leather parts soft and pliable, the metal parts free from rust and dirt and properly painted.

Drivers and individually mounted men will be carefully instructed in the care of harness and horse equipment.

675. Harness and horse equipment will habitually be cleaned immediately after use. This obligation, like the care of the horse, is to be regarded as a part of the mounted duty, and exercises will not be considered as completed until horses, harness, and equipment have been cared for and put in order.

The cleaning is performed under the immediate supervision of the lieutenant assigned to Department B (**82**).

The chiefs of section are in direct charge of the work pertaining to their sections and are responsible that the cleaning is carried out as ordered, that the materials issued are properly expended, and that the harness is left in good order.

Ordinarily about 30 minutes should be allowed for a driver to unharness his pair and properly care for and dispose of his harness.

To do this the driver wipes and cleans with a damp cloth the bits, the bearing surfaces of the collars, and the leather parts of the harness, paying particular attention to the places where the leather is wet from perspiration; dries the bits and rubs them with a cloth damp with oil, and puts the harness in order. If the saddle blanket is wet, he leaves it uncovered to

dry. At this time, also, parts that should be repaired or replaced are given to the chief of section, who is responsible that they are promptly taken to and returned from the saddler or that the necessary new parts are procured from the quartermaster sergeant.

676. Care should be exercised in handling all articles of harness and horse equipment. Saddles must not be dropped or thrown about, as fractured arches or broken side bars may result; collars must not be subjected to rough treatment, or they may be bent out of shape and rendered unfit for use.

Such parts as stirrup straps, quarter straps, etc., should occasionally be exchanged or be altered in length so as to bring fresh holes at the buckles or fresh surfaces into wear.

677. The saddle blanket should be kept clean, soft, and free from wrinkles. Occasionally it should be hung in the sun and wind, and then beaten and brushed. When necessary it is thoroughly cleaned by repeated immersions in tepid soap suds and then, without wringing or pressing, is hung over a pole or line to dry.

678. At intervals of from one to four weeks, depending upon climatic conditions and the use to which it has been subjected, the harness should be completely taken apart and thoroughly overhauled, cleaned, and dressed.

When necessary the collars, trace chains, etc., should be painted.

To clean and dress the harness: Take the harness completely apart, unbuckling straps, removing buckles, loops, etc., wherever possible.

With a sponge dampened but not wet with water wipe off all surface dust and mud. Rinse out the sponge, moisten it in clear water, squeeze it until nearly dry, rub it vigorously upon castile soap, and work it about in the hand until a thick, creamy lather is formed. Clean each leather piece thoroughly in this lather, each strap being drawn its entire length through the lathered sponge so as actually to remove therefrom the salt, sweat, and dirt.

Again rinse out the sponge and make a thick lather as described above except that saddle soap is used. Go over each piece as before, working the lather well into every part. Place the parts in the shade to dry.

While these parts are drying, clean the buckles and other metal parts of the harness.

After the leather parts have become partially dry, they are rubbed vigorously with a soft cloth.

The harness is then assembled.

679. As long as the saddle soap dressing maintains the leather soft and pliable nothing further is required, but from time to time it will be necessary to apply a little neat's-foot oil. Frequent light applications are of more value than infrequent heavy ones.

To oil the harness: Clean the leather parts in the lather of castile soap as described above.

While the parts are still damp apply the oil to the flesh side of the leather with a cloth or cotton waste moistened but not soaked with oil, using long, light strokes. A light even distribution of the oil should be sought. The tendency is to use too much oil; the amount necessary for each set of harness should rarely exceed two ounces. After oiling, the parts should, if practicable, be allowed to stand for 24 hours in a warm, dry, shady place, and should then be rubbed with a dry cloth. The harness is then assembled.

680. Detailed instructions for cleaning, dressing, and oiling leather equipment are contained in Ordnance Pamphlet No. 1965.

SECTION V.—RANGE-FINDING AND FIRE-CONTROL AND SIGNAL EQUIPMENT.

681. The instructions contained in the Handbook, in Ordnance Pamphlet No. 1795, and in Signal Corps Manual No. 3, for the care and disassembling of the range-finding and fire-control and signal equipment will be followed.

682. The equipment will be cared for as soon as possible after being used, the work on each instrument being performed habitually by the individual assigned to its service.

In caring for the instruments chamois skin is ordinarily used as a wiper on parts other than optical surfaces. To clean such surfaces, remove with a camel's hair brush all particles that might scratch the surface, moisten the surface with the breath, wipe it carefully with the special lens paper that can be procured from the Ordnance Department or with a piece of old soft linen, and remove any remaining lint with the brush.

Water is harmful to optical surfaces except in very small quantities, as from the condensation of the breath. The perspiration of the body contains an acid that decomposes optical glass, and for that reason drops of perspiration and finger marks should not be permitted to remain thereon. Under no circumstances will dirty cloth, chamois skin, cotton waste, or similar materials be used for cleaning optical surfaces, and oil will never be allowed to reach them.

It is important that optical parts of instruments be kept in warm, dry places when not in use.

683. Both before starting out for drill or exercise and after returning from the same, all service buzzers will be tested to insure their being in working order.

During the tests described below the switch lever of the service buzzer, Model 1914, should remain on the side marked T.

(*a*) **To test the buzzer element:** Press the key several times and, if necessary, adjust the buzzer until a satisfactory result is obtained. Directions for adjusting the buzzer are found inside the lid of the buzzer case. Seat the plug firmly in the jack, and while pressing the key touch the ground rod with the connector several times. When this contact is made the buzzer note should be much fainter than when it is broken.

If this test is successful the buzzer element, the plug, cord, and its connections are in order.

(*b*) **To test the telephone element:** Seat the plug firmly in the jack; clip the connector to the ground rod, and while blowing

briskly into the transmitter press the transmitter button several times. If the blowing is clearly heard in the receiver when the button is pressed and not at all when it is released, the telephone element, the plug, cord, and its connections are in order.

If both tests are successful, the instrument is in serviceable condition. If either of these tests fail, the faults should first be localized and then repaired.

684. To locate faults the tests described below should be made preferably in the order given.

(1) Connect the line terminals and test as in (*b*), paragraph **682.**

If this test is successful, while (*b*) was unsuccessful, the fault lies in the plug, cord, or its connections.

If when the button is pressed the blowing is not heard, but a very loud "clack" is heard in the receiver, the fault is a short circuit in the transmitter proper. To repair a fault in the transmitter the rear cover may be removed, but further than this the transmitter must never be opened except by an experienced person acting with the authority of the battery commander.

(2) Examine the key contacts. An imperfect upper contact is a frequent source of trouble. The upper contact should be well made when the key is up, and broken when it is down. The lower contacts should be broken when the key is up and made when it is down, the one directly below the key handle being made slightly later than the other one.

(3) The line terminals being disconnected, short-circuit the binding posts R and T with the instrument tool or some other conductor.

If a loud click is heard, the receiver, its cord, the primary winding of the induction coil and the battery seated next to the hinge of the battery door are in order.

(4) Connect the line terminals. Remove the transmitter cord from binding post T; short-circuit the line terminals. If when the transmitter binding posts are short-circuited a loud click is heard in the receiver, the fault lies in the transmitter or its cords. Attach the transmitter cord to the binding post T; re-

move the cover from the back of the transmitter, and repeat this test, short-circuiting the points where the cords are attached to the transmitter instead of short-circuiting the transmitter binding posts. If a loud click is heard in the receiver, the fault is an open circuit in the transmitter proper.

(5) Seat the plug firmly in the jack. Touch the ground rod to one pole of a battery and the connector to the other. If a loud click is heard in the receiver, the receiver, its cords, the secondary winding of the induction coil, the upper contact of the key, and the battery are in good order.

This test may be used to determine the serviceability of a battery.

685. Flash lights are issued for use during night firing. Those with hoods are for issue to the instrument sergeant and to the gunners; those without hoods to the battery commander, the reconnaissance officer, the executive and his officer assistant, and in each gun section to the chief of section, No. 1 and No. 3.

686. Field glasses and such other articles of this equipment as the captain may desire will be issued to individuals before each drill or exercise involving their use. Immediately thereafter they will be turned in and stored in such place as the captain may direct.

SECTION VI.—INDIVIDUAL EQUIPMENT.

687. The articles of individual equipment will be kept in serviceable condition either by allowing the men to care for them at their own time or by designating special periods for this work.

In either case the work is under the supervision of the lieutenant in charge (**82**), and the chiefs of section are responsible that it is properly carried on and that the necessary cleaning materials are on hand, available for use and properly expended.

688. All men will be instructed in the care and repair of this equipment, in accordance with the instructions contained in Ordnance Pamphlet No. 1965.

689. Articles of cloth equipment should be frequently well brushed with a stiff bristle or a dry scrub brush.

They should be washed only when necessary and then with a solution made by using ingredients in the following proportions: One cake of H. and H. or Paco soap dissolved in nine cups of hot water.

To wash an article of cloth equipment: Remove all dust and mud by brushing; spread the article on a clean board or rock; apply the soap solution with a scrub brush; when a good lather appears wash it off with clean water and place the article in the shade to dry.

690. Leather equipment is cleaned in a manner similar to that prescribed for harness (**678–680**).

691. Canteens and components of the mess outfit should be kept clean, and water and food kept in them no longer than necessary. Articles made of aluminum should be cleaned with water and a neutral or slightly alkaline soap, such as H. and H. In cleaning canteens a little sand may be used to advantage.

692. A pistol-cleaning kit is issued to each battery, and the men will be instructed in its use.

The pistol will be kept clean, free from rust, and properly oiled. It should be well oiled at all times in order to lubricate the working parts and to prevent the formation of rust; but excessive oil left in the mechanism causes the parts to gum and work stiffly. The pistol will be cleaned always immediately after firing.

A detailed description of the pistol and instructions for its disassembling, assembling, and care are found in Ordnance Pamphlet No. 1866.

693. The individual equipments will be frequently examined and parts needing repair will be repaired either by the responsible individual or by a mechanic.

694. It is important that both officers and enlisted men have a general knowledge of the repair of equipment. In active service when the replacing of equipment may be difficult and uncertain, the repair thereof may be of great importance. In time of peace opportune repairs prolong the life of the equipment and reduce the cost of maintenance of the organization.

CHAPTER III.—CARE OF BATTALION AND REGIMENTAL HEADQUARTERS EQUIPMENTS.

695. The several parts of the battalion and regimental headquarters equipments are cared for as prescribed for the corresponding parts of the battery equipment with necessary modifications; the adjutant, sergeant major, and signal corporal being charged with responsibilities corresponding to those of the captain, instrument sergeant, and telephone corporal, respectively.

The signal corporal is responsible to the sergeant major for the good order of the reel cart, its team, harness, and horse equipment.

696. Compasses, field glasses, watches, and such other articles of the range-finding and fire-control, signal, and engineer equipment as the adjutant may desire will be issued to individuals before each drill or exercise involving their use. Immediately thereafter they will be turned in and stored in such place as the adjutant may direct.

PART VII.—CEREMONIES.

CHAPTER I.—GENERAL RULES.

697. On occasions of ceremony, except funerals and reviews of large forces, troops will be arranged from right to left in line, and from head to rear in column, in the following order: First, infantry; second, field artillery; third, cavalry. Artillery, engineer, and signal corps troops, equipped as infantry, are posted as infantry; dismounted cavalry and marines attached to the Army are on the left of the infantry in the order named; companies or detachments of the hospital corps and mounted detachments of engineers are assigned to places according to the nature of the ceremony; mounted companies and detachments of the signal corps are posted as cavalry. When cavalry and field artillery are reviewed together without other troops, the artillery is posted on the left. Troops in column in funeral escorts will be arranged from head to rear in the following order: First, cavalry; second, field artillery; third, infantry. In the same arm, regulars, militia in the service of the United States, and volunteers are posted in line from right to left, or in column from head to rear, in the order named. In reviews of large bodies of troops the different arms and classes are posted at the discretion of the commanding general, due regard being paid to their position in camp. On all other occasions troops of all classes are posted at the discretion of the general or senior commander.

698. At formations for ceremony in which field artillery organizations of different types take part, they are formed in order from right to left in line, and from front to rear in column, as follows: Horse artillery, light artillery, heavy artillery, mountain artillery.

699. At formations for ceremony sabers are drawn. At ceremonies mounted the pieces are in front unless the formation is in double section. Cannoneers mounted on the chests fold their arms. Mounted officers in facing toward the line and in resuming their front always execute a left about.

Staff officers, when not otherwise prescribed, draw and return saber with their chief.

CHAPTER II.—REVIEWS.

SECTION I.—GENERAL RULES.

700. The adjutant posts men or otherwise marks the points where the column changes direction in such manner that its flank, in passing, will be about 10 yards from the reviewing officer.

701. The post of the reviewing officer, usually opposite the center of the line, is marked by a flag.

The reviewing officer should be at the flag before the head of the column reaches that point; before that time he may take any position to observe the movements of the troops.

702. The staff of the reviewing officer is in single rank, six yards in rear of him, in the following order, from right to left: Chief of staff, officers of the general staff corps, adjutant general, aids, then the other members of the staff in the order of rank, the senior on the right; the flag and orderlies place themselves three yards in rear of the staff, the flag on the right.

Officers of the same or higher grade, and distinguished personages invited to accompany the reviewing officer, place themselves on his left; their staffs and orderlies place themselves, respectively, on the left of the staff and orderlies of the reviewing officer; all others who accompany the reviewing officer place themselves on the left of his staff, their orderlies in rear. A staff officer is designated to escort distinguished personages and to indicate to them their proper positions.

703. While riding around the troops the reviewing officer may direct his staff, flag and orderlies, to remain at the post of

the reviewing officer, or that only his personal staff and flag shall accompany him; in either case the commanding officer alone accompanies the reviewing officer. If the reviewing officer is accompanied by his entire staff, the staff officers of the commander place themselves on the right of the staff of the reviewing officer.

The reviewing officer and others at the reviewing stand salute the standard as it passes; when passing around the troops the reviewing officer and those accompanying him salute the standard when passing in front of it.

The reviewing officer returns the salute of the commanding officer of the troops only. Those who accompany the reviewing officer do not salute.

704. The staff, flag, and orderlies of brigade commanders place themselves in the order prescribed for the staff, flag, and orderlies of the reviewing officer.

705. When the reviewing officer is not in front or in rear of a regiment, its commander may cause it to stand **at ease**, to **rest**, or to **dismount** and **rest**, and to resume **attention** and **mount**, but so as not to interfere with the ceremony.

706. After saluting the reviewing officer, the commanding officer of the troops turns out of the column and takes post on the right of the reviewing officer, his staff on the right of the reviewing officer's staff. When the rear element of his command has passed, without changing his position, he salutes the reviewing officer and rejoins his command. The commanding officer of the troops and his staff are the only ones who turn out of the column.

707. If the person reviewing the command is not mounted, the commanding officer and his staff on turning out of the column after passing the reviewing officer dismount preparatory to taking post. In such case the salute of the commanding officer, prior to rejoining his command, is made with the hand before remounting.

708. The formation for review may be modified to suit the ground, and the **present saber** and the ride around the line by the reviewing officer may be dispensed with.

709. If the post of the reviewing officer is on the left of column, the troops march in review with the guide left; commanding officer and his staff turn out of the column to left, taking post as prescribed above, but to the left of reviewing officer.

710. Battalion commanders repeat the commands of th regimental commander.

Whenever the colonel faces the line to give commands, majors face at the same time; they resume their front af seeing the movement executed. All such commands are execu when they have been repeated by the majors. When the c mand is **Present saber,** the lieutenant colonel and the colon staff salute at the command of the colonel; the major's s salutes at the command of the major; the colonel and majors salute after resuming their front; each staff returns the carry at the command of its chief. The same rules apply the colonels and majors and to the general's, colonel's, major's staffs whenever the brigade commander faces the l to give commands.

When passing in review the staff of each commander salu and returns to the **carry** with him.

711. When the general, the colonel, or the major faces line to give commands, the staff and orderlies do not cha position.

712. Each guidon and, when the rank of the reviewing off entitles him to the honor, each regimental standard salu (**774**) at the colonel's command, **Present saber**; and again passing in review when 6 yards from the reviewing officer. regimental standard and the guidons are raised at the comma **Carry saber,** or when they have passed 6 yards beyond reviewing officer.

713. The band of each regiment plays while the review officer is passing in front and in rear of the regiment.

During the march in review each band, immediately a passing the reviewing officer, turns out of the column away f the reviewing officer, takes post in front of and facing l continues to play until its regiment has passed, then ce

playing and follows in rear of its regiment; the band of the following regiment commences to play as soon as the preceding band has ceased. The musicians of each regiment, except those of the regimental and battalion commanders, are consolidated in rear of the band.

If the band be not present, the musicians of each regiment, with the exceptions above noted, are consolidated and posted in double rank in a position corresponding to that of the band. They conform to what is prescribed for the band, the chief trumpeter taking post and performing the duties of the drum major.

In a single battalion when no band is present the musicians of the battalion, with the exception above noted, are formed in single rank and posted as prescribed for the musicians of the regiment, conforming to what is prescribed for them.

714. If the rank of the reviewing officer entitles him to the honor, the prescribed **national air** is played by the band, or **to the standard, march** or **flourishes** are sounded by the field music when sabers are presented, and again in passing in review at the moment the regimental standard salutes, by the musicians halted in front of the reviewing officer **(607)**.

Musicians with the regimental or battalion commanders do not sound the march or flourishes.

715. Light artillery passes in review at a walk or trot. Horse artillery may also pass at a gallop.

When passing at the trot or gallop no salutes are made except by the commander of the troops when he leaves the reviewing officer.

716. When the command is to pass at an increased gait the band, or musicians, if no band be present, remains in front of the reviewing officer and continues to play until the column has completed its first change of direction after passing the reviewing officer. As soon as the increased gait is taken up by the column the band plays in appropriate time, ceasing when the column has again completed the first change of direction after passing the reviewing officer. Upon the completion of the review, the band returns to the position it occupied before march-

ing in review or is dismissed, as may be directed. If there be more than one regiment the band of the last regiment in column remains in front of the reviewing officer; the others turn out of the column when the increased gait is taken up by their respective regiments, and rejoin them, or are dismissed on the termination of the review.

717. In reviews of brigades or larger commands each battalion, after its rear has passed the reviewing officer 50 yards, takes an increased gait for 100 yards in order not to interfere with the march of the column in rear.

The troops having passed the reviewing officer, return to their camps by the most practicable routes, being careful not to delay the march of the troops in rear of them.

718. When field artillery is reviewed in line with cavalry or infantry, it is formed in line with the lead drivers of the pieces aligned on their front rank.

This line is marked by the guidons who precede the batteries on the line, where they are established by the adjutant.

The reel carts, battery wagons, store wagons, and field wagons do not accompany field artillery at reviews unless specially ordered to do so. Such vehicles pass in review at the walk only.

719. When it is necessary that an organization should be reviewed before an inspector junior in rank to the commanding officer, the commanding officer receives the review and is accompanied by the inspector, who takes post on the commanding officer's left.

SECTION II.—BATTALION REVIEW.

720. The battalion being in line, the major faces to the front, his staff taking post in his rear; the reviewing officer moves a few yards toward the major and halts; the major turns about, commands: 1. **Present**, 2. **SABER**, and again turns about and salutes.

The reviewing officer returns the salute; the major turns about, brings the battalion to carry saber and again turns to the front.

The reviewing officer approaches to within about six yards of the major; the latter salutes, returns saber, joins the reviewing officer, takes post on his right, and accompanies him around the battalion. The reviewing officer proceeds to the right of the band, passes along the front to the left of the line, and returns to the right, passing in rear of the line. The reviewing officer and those accompanying him salute the standard when passing in front of it.

While the reviewing officer is riding around the battalion the band plays, ceasing when he leaves the right to return to his post.

On arriving again at the right of the line the major salutes, halts, and, when the reviewing officer and staff have passed, moves directly to his post in front of the battalion, faces it, draws saber, and commands: 1. **By the right flank**, 2. **MARCH**, 3. **Battalion**, 4. **HALT.** The command **halt** is given as soon as the carriages have completed the turn. The band takes post 36 yards in front of the leading battery.

The column being formed, the major commands: 1. **Pass in review**, 2. **Forward**, 3. **MARCH**, 4. **Guide right.** At the command **march** the column marches off, the band playing. Without command from the major, the column changes direction at the points indicated, and column of batteries at full distances with guide to the right is formed successively to the left at the second change of direction. The major takes his post 24 yards in front of the band, immediately after the second change. The band, having passed the reviewing officer, turns to the left out of the column, takes post in front of and facing the reviewing officer and remains there until the review terminates.

When the major is six yards from the reviewing officer he and his staff salute, turning the head and eyes sharply to the right. When the major has passed six yards beyond the reviewing officer they resume the carry, turning the head and eyes to the front.

The other officers, noncommissioned staff officers, the drum major, and noncommissioned officers commanding platoons

salute at the point described for the major, turning the head and eyes as above described.

The reviewing officer returns the salutes of the major only and salutes the standard.

The major, having saluted, takes post on the right of the reviewing officer, remains there until the rear of the battalion has passed, then salutes and rejoins his battalion. The band ceases to play when the column has completed its first change of direction after passing the reviewing officer.

When sufficient space is available the leading battery executes by the right flank after passing at least 100 yards beyond the reviewing officer and then by three times executing **column left** returns to the ground originally occupied in column. The remaining batteries execute the same movements successively on the same ground.

When the space is restricted the major gives the necessary orders for the changes of direction after passing the reviewing officer. So long as the battalion is brought back in flank column, caissons on the right, to its original position in column it is of no importance whether the several batteries are right or left in front.

When the battalion arrives on the ground originally occupied in column the major commands: 1. **Trot,** 2. **MARCH.**

The battalion passes in review as before, except that the cannoneers' arms are not folded and that no salutes are rendered, except by the major when he leaves the reviewing officer.

The review terminates when the rear battery has passed the reviewing officer; the band then ceases to play and rejoins the battalion or is dismissed. The major and his staff rejoin the battalion.

The reviewing officer may prescribe how often the column shall pass in review and the gait or gaits to be used.

Review of a Battalion with Closed Intervals.

721. The battalion is formed in line, each battery being at closed intervals. The review is conducted according to the principles previously explained, except that instead of first

forming flank column the battalion is formed in column of batteries with closed intervals but full distances and passes in review in that formation.

SECTION III.—REGIMENTAL REVIEW.

722. The regiment may be formed in line with full or closed intervals, in line of masses or in such other formation as the nature of the ground and the presence of other troops may necessitate.

When the formation is in line with full intervals, the colonel takes post facing to the front and the review proceeds as prescribed for the battalion review, substituting "colonel" for "major" and "regiment" for "battalion."

In riding around the regiment the reviewing officer passes to the left in rear of the line of majors, then returns in rear of the line of carriages to the right.

At the second change of direction each major takes post 24 yards in front of his leading battery. When at closed intervals, this distance is suitably reduced.

723. When the regiment is formed in line with closed intervals, the rules for the review of a battalion in line with closed intervals apply.

724. When in line of masses or other formation, the review is conducted according to the same principles, each battery being placed in march in time to follow the preceding one at the proper distance.

SECTION IV.—BRIGADE REVIEW.

725. The brigade is formed and prepared for review as explained for the regiment. The brigade commander and staff take post about 30 yards in front of the line of colonels, when in line; about 30 yards in front of the leading colonel, when in column.

The review is conducted according to the principles laid down for regimental review, the brigade commander taking post 24 yards in front of the leading colonel when at about 100 yards from the reviewing officer.

SECTION V.—GARRISON REVIEW.

726. A review of a body of troops less than a division, composed of different arms, is conducted on the principles laid down for a regiment.

The senior line officer present commands the review; the senior line officer present with each arm commands that arm. The troops of each arm form on the line according to the principles prescribed in the regulations for that arm.

Each commander gives the commands necessary to carry out the orders of the officer commanding the review.

Mounted troops will not be put in march to pass in review until the rear element of the foot troops has completed the second change of direction. The commanding officer, having passed the reviewing officer, turns out and joins him. The other commanders do not turn out of the column.

CHAPTER III.—INSPECTIONS.

SECTION I.—GENERAL RULES.

727. The inspector prescribes the kind of inspection which he desires.

728. If there be both inspection and review, the inspection may either precede or follow the review.

When an inspection follows a review with the other arms the Field Artillery proceeds, at the proper time, to the place designated by the inspector and is inspected separately.

729. The inspections herein prescribed partake in part of the nature of ceremonies. Such inspections do not in any sense replace the detailed inspections which organization and other commanders should make of matériel, equipment, etc.

SECTION III.—BATTERY INSPECTION.

Mounted.

730. The battery being in double section line, the captain commands: 1. Prepare for inspection, 2. ACTION FRONT.

At this command the gun platoons are unlimbered and prepared for firing. The chiefs of the other platoons move their platoons to the rear by a left about, and, after gaining sufficient distance, execute a second left about and form their platoons in double section line abreast of the limbers of the gun sections.

The chief of the first and second platoons take post opposite the center and 4 yards in front of the line of muzzles of their platoons. The chiefs of the other platoons take post opposite the center and 4 yards in front of the lead drivers of their platoons.

All the carriages being in position, the captain commands: 1. **Right,** 2. **DRESS,** verifies the alignment of the officers and the two ranks of carriages, commands: **FRONT,** and posts himself, when not acting as inspector, opposite the center of the battery and 8 yards in front of the line of muzzles.

The ninth section constitutes an additional platoon, which is commanded by the senior sergeant with it (488). When the ninth section is not present its personnel is assigned as prescribed in paragraph 486.

The guidon is 4 yards from the right flank of the line of limbers, abreast of the lead drivers; the musicians on the right of the guidon, all boot to boot.

The chiefs of section cause all limber, caisson, and wagon chests to be opened for inspection.

When acting as inspector the captain inspects the chiefs of platoon from right to left; passes by the rear of the battery to the post of the first sergeant and inspects him; thence by the rear of the battery to the right flank, where he returns saber and inspects the musicians and guidon.

He goes to the right section of the right platoon and inspects the section, commencing with the chief of section, passing in order to the caisson, the gun, and the limbers. He then similarly inspects the other sections in order from right to left.

When the captain commences the inspection of the right platoon the chiefs of the other platoons cause their platoons to stand **at ease,** calling them to **attention** as the captain approaches their platoons. Each chief of platoon accompanies the

captain during the inspection of his platoon. As soon as a platoon is inspected its commander causes it to take the march order and then to stand at ease. The platoon commander faces his platoon while at ease.

The inspection being completed, the captain limbers front and rear and commands: 1. Form double section line, 2. MARCH.

At the second command the first and second platoons execute the movement (568); the chiefs of the other platoons move their platoons in double section up on the line established by the caissons of the gun sections.

731. The battery carries for inspection every article that is prescribed as part of its regular equipment and for which there is a specially designated place.

732. Should the inspector be other than the captain, the latter, having prepared his battery for inspection and taken his post, salutes when the inspector arrives in front of him. The inspector returns the salute, inspects the captain, and then inspects the battery in the order just described. As soon as inspected the captain returns saber and accompanies the inspector.

Dismounted.

733. The battery being in line, the captain causes the ranks to be opened and commands: Prepare for inspection (119). At that command the lieutenants carry saber.

734. The captain returns saber, inspects the chiefs of platoon, the front rank, the rear rank, and the file closers, beginning on the right of each and returning by the left and rear. During the inspection of the ranks the lieutenants face about and stand at ease; they may be directed to accompany the captain or to assist in the inspection. Upon the completion of the inspection the lieutenants face to the front and resume the attention; the captain closes the ranks and dismisses the battery.

735. Should the inspector be other than the captain, the latter opens ranks and, when the inspector approaches, brings the bat-

tery to attention, faces to the front, and salutes. The salute acknowledged, the captain carries saber, faces about, commands: **Prepare for inspection,** and again faces to the front.

The inspection proceeds as before; the captain returns saber and accompanies the inspector as soon as the latter has inspected him.

At inspection of quarters the inspector is accompanied by the captain and followed by the other officers, or by such of them as he may designate; the men, without accouterments, stand uncovered near their respective bunks; in camp they stand covered, without accouterments, in front of their tents; upon the approach of the inspector the first sergeant commands: **ATTENTION,** salutes, if covered, and leads the way through the quarters or camp.

SECTION III.—BATTALION INSPECTION.

736. The battalion being in column of batteries, in double section, on the approach of the inspector the major commands: 1. **Prepare for inspection,** 2. **MARCH.**

The batteries are prepared for inspection as already prescribed.

The musicians join their batteries. The drum major conducts the band, if there be one, to the rear of the column, passing by the right flank, and places it, facing to the front, 36 yards in rear of the battery and opens ranks.

The battalion staff officers place themselves in line, with 1-yard intervals, about 40 yards in front of the column, opposite the center, in order of rank, from right to left; the noncommissioned staff and the noncommissioned officers of the headquarters detachment form at 1-yard intervals 3 yards in rear of the staff officers; the privates are similarly posted 3 yards in rear of the noncommissioned officers. The reel cart takes post as prescribed in paragraph 575, the chest being opened at the command **Prepare for inspection, March.** The guard of the standard marches to the front and takes post 6 yards in rear

of the center of the line of privates. The major takes post front of the center of the column 6 yards in front of the staff.

The inspector inspects the major and, accompanied by t latter, inspects the staff officers.

The major and his staff, as soon as inspected, return sab and accompany the inspector.

The adjutant gives the commands for the inspection of t noncommissioned staff.

The inspector, commencing at the head of the column, inspec the noncommissioned staff, the guard of the standard, the b teries in their order in column, and the band. The noncomm sioned staff and the guard of the standard may be dismiss as soon as inspected.

The captain of each battery not undergoing inspection d mounts his drivers and brings the men to rest. As the inspect approaches the battery the captain brings it to attention a mounts the drivers; as soon as he himself has been inspect he returns saber, and accompanies the inspector. The inspect proceeds as in battery inspection. At its completion the capta limbers the carriages, forms double section line to the fro dismounts his drivers, and brings the battery to rest. Up intimation from the inspector the major may direct that ea battery in turn be dismissed as soon as inspected.

The band plays during the inspection of the batteries.

When the inspector approaches the band the adjutant co mands: 1. Inspection, 2. INSTRUMENTS, and the band is spected as prescribed in paragraph 787.

787. The battalion may be inspected in line. The inspecti is conducted according to the same principles as when formed column. The major, his staff, noncommissioned staff, he quarters detachment, and reel cart are inspected at their po in front of the center of the line; the band, which remains at post on the right, is next inspected; then the batteries and guard of the standard in their order from right to left.

788. If the major is himself the inspector the inspection conducted according to the same principles.

SECTION IV.—REGIMENTAL INSPECTION.

739. The commands and means are the same as prescribed for a battalion.

In column the staff of the colonel forms in line at intervals of 1 yard about 30 yards in front of the major of the first battalion, the adjutant on the right, the other staff officers in order of rank from right to left. The lieutenant colonel is on the right of the staff. The noncommissioned staff, headquarters detachment, guard of the standard, and reel cart form in a manner similar to that prescribed for battalion inspection. The colonel takes post 12 yards in front of the center of his staff.

The inspector inspects the colonel, and, accompanied by the latter, inspects the lieutenant colonel and staff officers.

The colonel, lieutenant colonel, and staff, as soon as inspected, return saber and accompany the inspector.

Commencing at the head of the column, the inspector inspects the noncommissioned staff, headquarters detachment, guard of the standard, each battalion in succession, and the band.

The major of a battalion not undergoing inspection dismounts his drivers and brings the battalion to rest. On the approach of the inspector the major brings his battalion to attention, mounts the drivers, and accompanies the inspector through his battalion. The inspection is conducted as in battalion inspection, each captain dismounting his drivers and resting his battery while not undergoing inspection.

When the inspection of a unit is completed the colonel, upon intimation from the inspector, may direct that it be marched off and dismissed.

The adjutant gives the commands for the inspection of the regimental noncommissioned staff, guard of the standard, and band.

740. The regiment may be inspected in line. The inspection is conducted according to the same principles as when formed in column. The field, staffs, noncommissioned staffs, and headquarters detachments are inspected at their posts in front of the line; the band, which remains at its post on the right, is

next inspected; then the batteries and the guard of the standard in their order from right to left.

CHAPTER IV.—MUSTER.

Regimental, Battalion, or Battery Muster.

741. Muster is held in line or in column of batteries, carriages limbered, drivers and cannoneers mounted.

The adjutant is provided with the muster roll of the field, staff, headquarters detachment, and band; each captain, with the roll of his battery. A list of absentees alphabetically arranged, showing cause and place of absence, accompanies each roll.

As the mustering officer approaches a battery, its captain commands: **ATTENTION TO MUSTER.** The mustering officer or the captain then calls the names on the roll, and as each man's name is called, he answers **Here** and dismounts. After muster the mustering officer verifies the presence of the men reported in hospital, on guard, etc.

If a battery is mustered dismounted the ranks are opened, and as each man's name is called he answers **Here** and steps 1 pace to the front.

CHAPTER V.—ESCORTS.

SECTION I.—ESCORT OF THE STANDARD.

742. The regiment being in line, the colonel details a battery to receive and escort the national standard to its place in line. During the ceremony the regimental standard remains with the guard of the standard at its post with the regiment.

The escort is formed in flank column, the band in front, the national standard bearer at the center of the column. The escort then marches without music to the colonel's office or quarters, is formed in line facing the entrance and halted, the band on the right, the standard bearer midway between the two center sections on a line with the muzzles.

The senior lieutenant, the standard bearer, and a sergeant designated by the commander of the escort dismount in front of the colonel's quarters, their horses being held by a musician. The standard bearer, preceded by the lieutenant and followed by the sergeant, then goes to receive the standard.

The standard bearer comes out, followed by the lieutenant and sergeant. They mount and form facing the center of the escort, the lieutenant on the right, the sergeant on the left, the musician returning to his post. The captain then commands: 1. **Present**, 2. **SABER**; the officers of the escort present saber, the musicians with the band sounding to the standard, and the guidon saluting.

The sabers are brought to the carry; the lieutenant and sergeant return to their posts; the battery moves to the right flank, the band conforming to the movement, the standard bearer placing himself at the center of the column.

The escort marches with the guide left back to the regiment, the band playing. The march is so conducted that when the escort arrives at 90 yards in front of the right of the regiment the direction of the march shall be parallel to its front. When the standard arrives opposite its place in line the escort is formed in line to the left and halted. The standard bearer, passing between the carriages, advances and halts 12 yards in front of the colonel.

The standard bearer having halted, the colonel, who has posted himself 40 yards in front of the center of his regiment, faces the line and commands: 1. **Present**, 2. **SABER.** At this command officers present saber and the regimental standard and the guidons salute. The colonel faces to the front and salutes, the musicians sounding to the standard.

The colonel then faces about and commands: 1. **Carry**, 2. **SABER.** At the second command the carry is resumed. The standard bearer moves at a walk toward the regiment, and passing by the left of the guard of the standard executes a left about and takes his place in the guard.

The escort presents and carries saber with the regiment, at the command of the colonel. As soon as the standard has

reached its place in line the captain forms the escort in column and marches it, preceded by the band, to its place in line, passing around the left flank of the regiment.

The band plays until the escort passes the left of the line, when it ceases playing and returns to its place on the right, passing in rear of the regiment.

The regiment may be brought to rest after the escort has passed the left of the line.

743. If but one battalion of the regiment is present, escort of the standard is executed according to the same principles.

744. If it is impracticable for the battery detailed as escort to approach the colonel's quarters or office and to form opposite it as above described, then the battery is marched to the most suitable place near by and there formed. The standard is then brought out as before, and is similarly saluted and received by the escort.

SECTION II.—FUNERAL ESCORT.

745. The composition and strength of the escort are prescribed in Army Regulations.

The escort is formed with its center opposite the quarters of the deceased, the cannoneers mounted, the band, or musicians, on that flank of the escort toward which it is to march.

Upon the appearance of the coffin the commander of the escort commands: 1. **Present,** 2. **SABER,** and the band plays an appropriate air; sabers are then brought to the carry.

The escort is then formed in flank or section column.

The procession is formed in the following order: 1, music; 2, escort; 3, clergy; 4, coffin and pallbearers; 5, mourners; 6, members of the former command of the deceased; 7, other officers and enlisted men; 8, distinguished persons; 9, delegations; 10, societies; 11, civilians.

Officers and enlisted men, with side arms, are in the order of rank, seniors in front.

The escort marches at a walk to solemn music, and on arriving at the grave is formed in battery, with the center opposite

the grave; the coffin is then carried along the front of the escort to the grave, sabers are presented, and the band plays an appropriate air; the coffin having been placed over the grave, the music ceases and sabers are brought to the carry.

The commander next commands: 1. **Parade,** 2. **REST.**

At the second command the cannoneers execute **parade rest** and incline the head.

After the coffin is lowered into the grave and the funeral services are completed the commander of the escort commands: 1. **Battery (or platoon),** 2. **ATTENTION,** and then fires three volleys of one round each with blank cartridges. In this case the command will be: 1. **Fire by battery (platoon, etc.),** 2. **Battery (platoon, etc.),** 3. **FIRE.** After the last volley a musician sounds taps over the grave.

The escort is then formed into column, marched to the point where it was assembled, and dismissed.

The band does not play until it has left the inclosure.

The funeral ceremony for an enlisted man is the same as for an officer, except that the commands **Present saber** and **Carry saber** are omitted; the sergeant in command of the escort salutes with the hand on the appearance of the coffin at the quarters of the deceased and also when the coffin is carried along the front of the escort to the grave.

746. When the distance to the place of interment is considerable, the escort after leaving the camp or garrison may march at ease until it approaches the burial ground, when it is brought to attention. The music does not play while marching at ease.

In marching at attention the field music may alternate with the band in playing.

747. When it is impracticable for the carriages to approach the grave, they are left outside the inclosure. If the escort consists of Artillery only, the officers and mounted men, except horseholders of horse artillery and drivers, dismount, turn over their horses to the horseholders of horse artillery or the drivers.

The officers draw saber; the gun squads are next formed in column of squads; the coffin is then escorted to the grave, where line is formed and the same ceremonies are performed as be-

fore prescribed. The ceremony at the grave having been completed, the gun squads are marched to the guns and three volleys are fired; after the last volley a musician sounds taps over the grave.

748. Should the entrance to the cemetery prevent the hearse accompanying the escort till the latter halts at the grave, the column is halted at the entrance long enough to take the coffin from the hearse, when the column is again put in march. The Cavalry and Artillery of the escort, when unable to enter the inclosure, turn out of the column and salute the coffin as it passes.

749. In all funeral ceremonies six pallbearers will be selected as far as practicable from the grade of the deceased. If the deceased is a commissioned officer, the coffin is borne by six noncommissioned officers; if a noncommissioned officer or private, by six privates.

750. When arms are presented at the funeral of a person entitled to any of the following honors, the band plays the prescribed national air, or the field music sounds to the standard, march, or flourishes, according to the rank of the deceased, after which the band plays an appropriate air.

After the remains are deposited in the grave a salute corresponding to the rank of the deceased will be fired, in addition to three volleys of artillery or of musketry.

751. At the funeral of a mounted officer or enlisted man, his horse, in mourning caparison, follows the hearse.

752. When necessary to escort the remains from the quarters of the deceased to the church before the funeral service, arms are presented upon receiving the remains at the quarters and also as they are borne into the church.

753. Before the funeral the commander of the escort gives the clergyman and pallbearers all needed directions.

CHAPTER VI.—GUARD MOUNTING.

754. At the assembly, the men designated for guard fall in on their battery parade ground (97), noncommissioned officers in the line of file closers. The first sergeant verifies the detail,

inspects it, replaces any man unfit to go on guard, turns the detail over to the senior noncommissioned officer, and retires. The band takes its place on the parade ground so that the left of its front rank shall be 12 paces to the right of the front rank of the guard when the latter is formed.

755. At **adjutant's call**, the adjutant, dismounted, and the sergeant major on his left, march to the parade ground. The adjutant halts and takes post so as to be 12 paces in front of and facing the center of the guard when formed; the sergeant major continues on, moves by the left flank, and takes post, facing to the left, 12 paces to the left of the front rank of the band; the band plays in quick or double time; each detail is marched to the parade ground by its senior noncommissioned officer; the detail that arrives first is marched to the line so that, upon halting, the breast of the right front-rank man shall be near to and opposite the left arm of the sergeant major; the commander of the detail halts it, places himself in front of and facing the sergeant major, at a distance equal to or a little greater than the front of his detail, and commands: 1. **Right,** 2. **DRESS.** The detail dresses up to the line of the sergeant major and its commander, the right front-rank man placing his breast against the left arm of the sergeant major. The detail aligned, the commander of the detail commands: **FRONT**, salutes, and reports: "**The detail is correct**" or "**(So many) sergeants, corporals, or privates are absent**"; the sergeant major returns the salute after the report is made; the commander then passes by the right of the guard and takes post in the line of file closers in rear of the right file of his detail.

Should there be more than one detail, it is formed in like manner on the left of the one preceding; the privates, noncommissioned officers and commander of each detail dress on those of the preceding details in the same rank or line; each detail commander closes the rear rank to the right and fills blank files, as far as practicable, with the men from his front rank.

Should the guard from a battery not include a noncommissioned officer, one will be detailed to perform the duties of commander of the detail. In this case the commander of the de-

tail, after reporting to the sergeant major, passes around the right flank between the guard and the band and retires.

756. When the last detail has formed, the sergeant major verifies the detail, takes post two paces to the right and two paces to the front of the guard, facing to the left, causes the guard to count off, completes the left squad, if necessary, and if there be more than three squads, divides the guard into two platoons, again takes post as described above, and commands: 1. **Open ranks,** 2. **MARCH** (152).

The sergeant major aligns the ranks and file closers and again taking post as described above, commands: **FRONT,** moves parallel to the front rank until opposite the center, turns to the right, halts midway to the adjutant, salutes, and reports: "**Sir, the details are correct**"; or, "**Sir (so many), sergeants, corporals, or privates are absent**"; the adjutant returns the salute, directs the sergeant major: **Take your post,** and then draws saber; the sergeant major faces about, approaches to within two paces of the center of the front rank, turns to the right, moves three paces beyond the left of the front rank, turns to the left, halts on the line of the front rank and faces about. When the sergeant major has reported, the officer of the guard takes post, facing to the front, six yards in front of the center of the guard and draws saber.

The adjutant then commands: 1. **Officer (or officers) and noncommissioned officers,** 2. **Front and center,** 3. **MARCH.**

At the command **center,** the officer carries saber. At the command **march,** he advances and halts three paces from the adjutant, remaining at the carry; the noncommissioned officers pass by the flanks, along the front, and form in order of rank from right to left, three paces in rear of the officer; if there is no officer of the guard the noncommissioned officers halt on a line three paces from the adjutant; the adjutant then assigns the officers and noncommissioned officers according to rank, as follows: **Commander of the guard, chief of first platoon, chief of second platoon,** and **file closers,** or, if the guard is not divided into platoons: **Commander of the guard** and **file closers.**

The adjutant then commands: 1. **Officer (or officers) and noncommissioned officers,** 2. **POSTS,** 3. **MARCH.**

At the command **posts,** all, except the officer commanding the guard, face about. At the command **march,** they take the posts prescribed (**152**). The adjutant directs: **Inspect your guard, sir;** at which the officer commanding the guard faces about, commands: **Prepare for inspection,** returns saber, and inspects the guard.

During the inspection, the band plays; the adjutant returns saber, observes the general condition of the guard, and falls out any man who is unfit for guard duty or does not present a creditable appearance. Substitutes will report to the commander of the guard at the guardhouse.

757. The adjutant, when so directed, selects orderlies and color sentinels, and notifies the commander of the guard of his selection.

758. If there be a junior officer of the guard he takes post at the same time as the senior, in the line of file closers opposite the center of the guard; in going to the front and center he takes position on the left of the senior; he may be directed by the commander of the guard to assist in inspecting the guard.

If there be no officer of the guard, the adjutant inspects the guard. A noncommissioned officer commanding the guard takes post on the right of the guard in line; and takes the post of the officer of the guard, when in column or when passing in review.

759. The inspection ended, the adjutant places himself about 30 paces in front of and facing the center of the guard, and draws saber; the new officer of the day takes post in front of and facing the guard, about 30 paces from the adjutant; the old officer of the day takes post three paces to the right of and one pace to the rear of the new officer of the day; the officer of the guard takes post six yards in front of its center, draws saber with the adjutant and comes to the order; thereafter he takes the same relative position as a captain of a battery dismounted.

The adjutant then commands: 1. **Parade,** 2. **REST,** 3. **SOUND OFF,** and comes to parade rest.

The band, playing, passes in front of the officer of the guard to the left of the line, and back to its position on the right, when it ceases to play.

The adjutant then comes to attention, carries saber, and commands: 1. **Guard**, 2. **ATTENTION**, 3. **Close ranks**, 4. **MARCH** (153).

The adjutant then commands: 1. **Present**, 2. **SABER**, faces toward the new officer of the day, salutes, and reports: **Sir, the guard is formed.** The new officer of the day, after the adjutant has reported, returns the salute with the hand and directs the adjutant: **March the guard in review, sir.**

The adjutant carries saber, faces about, brings the guard to carry saber, and commands: 1. **Squads right**, 2. **MARCH**, 3. **GUARD**, 4. **HALT.**

The guard executes the movement; the band turns to the right and places itself 12 paces in front of the guard.

The adjutant places himself six yards from the flank and abreast of the commander of the guard; the sergeant major, six yards from the left flank of the rear squad.

The adjutant then commands: 1. **Pass in review**, 2. **Forward**, 3. **MARCH.**

The guard, in column of squads, marches in quick time past the officer of the day, according to the principles of review, and is brought to **eyes right** at the proper time by the commander of the guard; the adjutant, commander of the guard, sergeant major, and drum major salute.

The band, having passed the officer of the day, turns to the left out of the column, places itself opposite and facing him, and continues to play until the guard leaves the parade ground. The field music detaches itself from the band when the latter turns out of the column, and remaining in front of the guard, commences to play when the band ceases.

Having passed 12 paces beyond the officer of the day, the adjutant halts; the sergeant major halts abreast of the adjutant and one pace to his left; the adjutant returns saber, they salute, and retire; the commander of the guard then marches the guard to its post.

The officers of the day face toward each other and salute; the old officer of the day turns over the orders to the new officer of the day.

While the band is sounding off, and while the guard is marching in review, the officers of the day stand at parade rest with arms folded. They take this position when the adjutant comes to parade rest, resume the attention with him, again take the parade rest at the first note of the march in review, and resume attention as the head of the column approaches.

The new officer of the day returns the salute of the commander of the guard and the adjutant, making one salute with the hand.

760. Informal guard mounting will be held on the parade ground of the organization from which the guard is detailed. If it is detailed from more than one organization, then at such place as the commanding officer may direct.

At assembly, the detail for guard falls in on the battery parade ground. The first sergeant verifies the detail, inspects the dress and general appearance, and replaces any man unfit to march on guard. He then turns the detail over to the commander of the guard and retires.

At adjutant's call, the officer of the day takes his place 12 paces in front of the center of the guard and commands: 1. **Officer (or officers) and noncommissioned officers,** 2. **Front and center,** 3. **MARCH;** whereupon the officer and noncommissioned officers take their positions, are assigned and sent to their posts as prescribed in formal guard mounting (651).

The officer of the day inspects the guard with especial reference to its fitness for the duty for which it is detailed, and selects the necessary orderlies and color sentinels. The men found unfit for guard will be returned to quarters and replaced by others found to be suitable, if available in the battery. If none are available in the battery, the fact will be reported to the adjutant immediately after guard mounting.

When the inspection is completed, the officer of the day resumes his position and directs the commander of the guard to march the guard to its post.

761. As the new guard approaches the guardhouse, the old guard is formed in line, with its field music three paces to its right; and when the field music at the head of the new guard arrives opposite its left, the commander of the new guard commands: 1. **Eyes**, 2. **RIGHT**; the commanders of both guards salute. The new guard marches in quick time past the old guard.

The commander of the guard commands: **FRONT**, when the head of the new guard is opposite the field music of the old guard; the commanders of both guards resume carry saber.

The field music having marched three paces beyond the field music of the old guard, changes direction to the right, and, followed by the guard, changes direction to the left when on a line with the old guard; the changes of direction are without command. The commander of the guard halts on the line of the front rank of the old guard, allows his guard to march past him, and when its rear approaches forms it in line to the left, three paces to the right of the field music of the old guard, and on a line with the front rank, and then dresses his guard to the left; the field music of the new guard is three paces to the right of its front rank.

762. The new guard being in line, the commander of each guard, at his post in front of the center, salutes and carries saber.

Should a guard be commanded by a noncommissioned officer, he stands on the right or left of the front rank, according as he commands the old or new guard, and salutes.

763. The detachments and sentinels of the old guard are relieved, and as they come in, take their proper place in the formation; the commander of the old guard then marches it, with the guide right, six yards to the front, then in squad column to the right; the field music begins to play, and the guard marches in quick time past the new guard, the commanders of both guards saluting.

Upon arriving at the battery parade, the commander of the old guard forms line and dismisses the guard.

764. In bad weather, at night, after long marches, or when the guard is very small, the music may be dispensed with, or the field music may take the place of the band and sound off, standing on the right of the guard, and the review be omitted.

The new officer of the day directs the adjutant: **March the guard to its post, sir.** The adjutant commands: 1. **Guard to its post,** and adds the necessary commands for the guard to move off.

765. The ceremony of formal guard mounting is held occasionally at such times as will not interfere with the training for war. Ordinarily the guard is mounted informally. The inspection must, however, never be omitted.

766. When a battery stable and park guard is mounted, the ceremony is conducted according to the foregoing principles, the battery officer of the day performing the duties of the adjutant and the first sergeant those of the sergeant major. The guard is not marched in review.

767. Detailed instructions for guards are contained in The Manual of Interior Guard Duty.

CHAPTER VII.—MISCELLANEOUS.

SECTION VII.—THE GUIDON.

768. The position of carry guidon, dismounted.—The lance of the guidon is held vertically in the right hand, thumb in front of the lance, forefinger along the side, ferrule about six inches from the ground. It is thus carried in marching.

When leading the horse the lance is held in a corresponding position in the left hand.

769. The position of order guidon.—The ferrule of the lance rests on the ground on a line with and touching the toe of the right shoe; the right hand grasps the lance in the same manner as when at a carry.

770. The position of parade rest.—The ferrule of the lance is on the ground as at the order; the lance is held with both hands in front of the center of the body, left hand uppermost.

771. To mount and dismount; the position of carry guidon, mounted.—At stand to horse the ferrule of the lance rests on

the ground on a line with and touching the toe of the left shoe, lance vertical and supported by the left hand; hand at the height of the neck, elbow and forearm closed against the lance.

In mounting (**240**) the lance is held in the left hand with the reins on the near side of the lance. After mounting, the lance is grasped with the right hand under the left, which lets go of it without quitting the reins, carried to the right side, lowered, and placed with the ferrule in the stirrup socket. The right hand then grasps the lance, forearm nearly horizontal, the arm through the sling, lance vertical; this is the position of **carry guidon, mounted.**

Dismounting with the guidon is executed in a manner the reverse of the foregoing.

772. Salutes.—Being mounted: Lower the guidon to the front until the lance is horizontal under the right arm.

Being dismounted: Slip the right hand up the lance as high as the eye, then lower the lance to the front by straightening the right arm to its full extent.

If marching the salute is executed when at 6 yards from the officer entitled to the salute, the carry is resumed after passing 6 yards beyond him.

At the halt the salute is executed at each command **present saber**; the carry is resumed at the command **carry saber.**

When passing in review the reviewing officer is saluted whatever his rank.

SECTION II.—THE STANDARD.

773. Whenever in these regulations the term **standard is used** it includes the national and the regimental standards, and the standard issued to battalions; if any one of these is referred to, the term **the national standard, the regimental standard, or the service standard** is used.

774. The manual of the standard is as prescribed for the guidon except that at carry standard, dismounted, the ferrule of the lance is supported at the right hip.

The regimental standard salutes in the ceremony escort to the standard and when saluting a person entitled to the honor, but in no other case. The national standard renders no salute.

775. The guard of the standard.—The guard of the standard consists of the color sergeants and of two experienced men selected by the colonel. The guard is habitually formed in line, the color sergeants in the center.

The national standard is carried by the senior color sergeant, who is nearest to the right flank of the guard and who commands the guard. The regimental standard is carried by the other color sergeant. The latter conforms to the movement of the former, maintaining his position on the left.

Whenever a battalion is serving alone and the regimental color sergeant is not present, the battalion commander details a suitable noncommissioned officer from those present for duty with the battalion to carry the standard.

The standard, kept at the quarters or office of the colonel, is escorted by the guard to the place of formation of the regiment and is similarly returned.

776. Post of the standard.—At the formation of the regiment, as soon as the battalions have taken their places, the guard of the standard takes post midway between the two battalions—in line, abreast of the lead drivers of the leading carriages; in column, at the center of the column. If the formation of the regiment is changed from line to column, or the reverse, the standard conforms to the movement, taking its new position by the most direct route.

When during exercises the regimental formation is broken up, the standard joins the colonel or is dismissed, as may be directed by the adjutant.

If the regiment is subdivided for action, the standard takes post as directed by the adjutant.

If only one battalion of the regiment is present, the standard takes post at the formation midway between the center and left (or rear) batteries of the battalion. If the order of the batteries in line or column is reversed, it maintains its relative

position with respect to these two batteries. The standard conforms in other respects to what is above prescribed.

SECTION III.—THE SABER.

777. Officers are armed with the saber, which is worn when prescribed in Tables of Occasions, Uniform Regulations.

For dismounted duty it is attached to the belt, the scabbard being hooked up except when drawing and returning saber.

For mounted duty it is attached to the left side of the saddle. It is not removed when dismounting temporarily for the performance of some duty on foot.

778. To draw the saber; the position of carry saber.—Unhook the saber with the thumb and first two fingers of the left hand, thumb on the end of the hook, fingers lifting the upper ring; grasp the scabbard with the left hand at the upper band, bring the hilt a little forward, seize the grip with the right hand and draw the saber quickly, raising the arm to its full extent to the right front at an angle of about 45° with the horizontal, the saber, edge down, in a straight line with the arm; make a slight pause and bring the back of the blade against the shoulder, edge to the front, arm nearly extended, hand by the side, elbow back, third and fourth fingers back of the grip; at the same time hook up the scabbard with the thumb and first two fingers of the left hand, thumb through the upper ring, fingers supporting it; drop the left hand by the side. This is the position of **carry saber dismounted.**

To draw saber when mounted, reach with the right hand over the bridle hand, and without the aid of the bridle hand, draw the saber as before. The right hand at the carry rests on the right thigh.

779. The position of order saber.—Being at the carry the point of the saber is dropped directly to the front, point on or near the ground, edge down, thumb on back of grip. The position may be assumed directly from any other position.

780. The saber, if drawn, is held at the carry while mounted. If dismounted, it is so held while giving commands, or while

marching at attention or changing position in quick time. Except where otherwise prescribed it is held at the order while at the halt, at attention dismounted.

At the double time, the saber is carried diagonally across the breast, edge to the front, the left hand steadying the scabbard.

781. Being at order or carry saber: 1. **Present,** 2. **SABER.**

At the command **present** raise and carry the saber to the front, base of the hilt as high as the chin and 6 inches in front of the neck, edge to the left, point 6 inches farther to the front than the hilt, thumb extended on the left of the grip, all the fingers grasping the grip. At the command **saber** lower the saber, point in prolongation of the right foot and near the ground, edge to the left, hand by the side, thumb on left of grip, arm extended. If mounted, the hand is held behind the thigh, point a little to the right and front of the stirrup.

782. Being at present saber: 1. **Carry,** 2. **SABER.**

At the command **saber,** resume the position of carry saber.

783. Being at order saber: 1. **Parade,** 2. **REST.**

Take the position of parade rest (**73**) except that the left hand rests on the right, point of saber on or near the ground in front of the center of the body, edge to the right.

At the command **attention,** resume the order saber and the position of the soldier.

784. To return saber.—Carry the right hand opposite to and 6 inches from the left shoulder, saber vertical, edge to the left; at the same time unhook and lower the scabbard with the left hand and grasp it at the upper band; drop the point to the rear and pass the blade across and along the left arm; turn the head slightly to the left, fixing the eyes on the opening of the scabbard, raise the right hand, insert and return the blade; turn the head to the front, drop the right hand by the side, hook up the scabbard with the left hand, drop the left hand by the side.

When mounted, the saber is returned without using the left hand.

SECTION IV.—THE BAND.

785. The band is generally formed in column of fours. It may be formed in two or more ranks.

Dismounted, the band is formed in two or more ranks, with sufficient intervals between the men and distances between the ranks to permit a free use of the instruments.

The drum major is 3 yards in front of the center of the front rank. He gives the commands or signals for its movements. The commands are the same as for a squad, substituting in them band for squad.

In line the band is posted with the left of its front rank 36 yards to the right of the right battery. In column it marches with its rear rank 36 yards in front of the leading battery or its front rank 36 yards in rear of the rear battery, according as the column has been formed to the right or the left.

Dismounted, the band takes post as when mounted.

When united, the musicians form in rear of the band. When the band is not present, the posts, movements, and duties of the musicians are the same as prescribed for the band.

In rendering honors, whenever the regimental standard salutes, the band plays the prescribed national air, or the field music sounds to the standard, march or flourishes, at a signal from the drum major.

In marching, the different ranks dress to the right.

When the command with which the band is posted faces to the rear, the band executes the countermarch. The intervals are increased before executing a countermarch and closed upon the completion of the countermarch.

In executing the countermarch, the men in the leading rank to the right of the drum major turn individually to the right about and those to his left to the left about, each followed by the men covering him in the column. The drum major passes through the center.

In dismounted formations, when right, left, or about face is executed, the band faces in the same manner.

Signals of the Drum Major.

786. The signals for the movements of the band will correspond to the arm signals (**504–506**) as far as practicable.

Prepare to play: The signal for attention.

Play: The signal of execution.

Prepare to cease playing: Same as **prepare to play.**

Cease playing: Same as **play.**

The march or flourishes.—1. **Prepare to play:** Raise the forearm to the height of the forehead and hold in a horizontal position, hand to the left.

2. **Play.** Lower the hand quickly.

Increase intervals: Extend the arm to the front and move it several times to the right and left in front of the body.

To Inspect the Band.

787. Being at the halt: 1. **Open ranks,** 2. **MARCH,** 3. **FRONT.** The front rank dresses to the right; the other ranks move backward, each taking the distance of 3 yards from the rank preceding, halt, and dress to the right.

Prepare for Inspection.

Each musician as the inspector approaches him raises his instrument in front of his body, reverses it so as to show the other side, and then returns it to its former position.

A bugler, when inspected, executes with his bugle what is prescribed for a band musician.

1. **Close ranks,** 2. **MARCH.**

The front rank stands fast; the other ranks move up and close to the proper distance.

SECTION V.—HONORS.

788. The President and the Vice President will be received with regimental standards or colors drooping, officers and troops saluting, and the bands playing The Star Spangled Banner, or, in the absence of the band, the field music or bugles sounding **to the standard.** Officers of the following grades of rank will be received with regimental standards or colors drooping, officers and troops saluting and the bands and field music playing, as follows: A general, the General's March; a lieutenant general,

trumpets sounding 3 flourishes or drums beating 3 ruffles; a major general, 2 flourishes or 2 ruffles; a brigadier general, 1 flourish or 1 ruffle.

789. To the members of the Cabinet, the Chief Justice, the President pro tempore of the Senate, the Speaker of the House of Representatives, American or foreign ambassadors, and governors within their respective States and Territories the same honors are paid as to a general, except that a foreign ambassador will be received with the national air of his country, and that the number of guns fired as personal salutes will be as prescribed in paragraph **820**; to the Assistant Secretary of War and to American and foreign envoys or ministers the same honors as to a lieutenant general; to officers of the Navy the honors due to their relative ranks; to officers of the marines, volunteers and militia when in the service of the United States, the honors due to like grades in the regular service; to officers of a foreign service the honors due to their rank.

790. The national or regimental color or standard, uncased, passing a guard or other armed body will be saluted, the field music sounding to the standard. Officers or enlisted men passing the uncased color will render the prescribed salute; with no arms in hand, the salute will be the hand salute, the headdress not to be removed.

791. Whenever The Star Spangled Banner is played at a military station, or at any place where persons belonging to the military service are present in their official capacity or present unofficially but in uniform, all officers and enlisted men present will stand at attention, facing toward the music, retaining their position until the last note of the air, and then salute. With no arms in hand the salute will be the hand salute. The same respect will be observed toward the national air of any other country, when it is played as a compliment to official representatives of such country. When played under the circumstances contemplated by this paragraph, The Star Spangled Banner will be played through without repetition of any part that is not required to be repeated to make the air complete.

792. When the flag is lowered at retreat and aboard transport when the flag is hoisted at guard mounting, part of the ceremony is the playing of The Star Spangled Banner, or To the Standard when there is no band, and another part is the salute to the flag. All officers and enlisted men out of ranks stand at attention facing the flag while the air is being played, and at the last note of the music salute in the prescribed manner.

793. No honors are paid by troops when on the march or in trenches, except that they may be called to attention, and no salute is rendered by troops marching in double time or at the trot or gallop.

794. When armed bodies of troops, or unarmed bodies commanded by commissioned officers, pass each other, except during drills or exercises, they are called to attention, if not already at attention, and the commanders salute, the junior rendering the first salute.

795. Before saluting an armed body, troops are always brought to attention.

796. No salutes are rendered between unarmed bodies commanded by noncommissioned officers.

797. If an officer passes a body of troops, except at drills or exercises, compliments are paid as follows:

If the officer is a superior officer of the commander of the troops, the troops are called to attention, if not already at attention, the commander salutes and the officer returns the salute. If the officer is not a superior officer of the commander of the troops, salutes are exchanged, the junior saluting first, and the troops are not called to attention.

798. If an officer or body of troops entitled to salute passes in rear of troops at a halt, the troops are brought to attention but no salutes are rendered.

799. The commander of a body of troops, if a commissioned officer, is saluted by all officers junior in rank and by all enlisted men. The salute is returned by the commander only, who does not call his command to attention if it be not at attention.

800. Uncovering is not a form of the prescribed salute, and the hand salute is executed only when covered.

801. When making or receiving official reports, all officers will salute, if covered; if uncovered, they stand at attention.

When under arms, the salute is made with the saber if drawn (78), otherwise with the hand.

On meeting, all officers salute when covered; when uncovered, they exchange the courtesies observed between gentlemen. Military courtesy requires the junior to salute first, but when the salute is introductory to a report made at a military ceremony or formation, to the representative of a common superior—as, for example, to the adjutant, officer of the day, etc.—the officer making the report, whatever his rank, will salute first; the officer to whom the report is made will acknowledge by saluting, if covered, or verbally if uncovered, that he has received and understood the report.

802. On official occasions officers, when indoors and under arms, do not uncover, but salute with the saber if drawn; otherwise with the hand. If not under arms, they uncover and stand at attention, but do not salute.

803. An enlisted man not in ranks, whether in uniform or not, if covered, salutes with the hand (78) all officers when within saluting distance. Officers are saluted whether in uniform or not.

804. A noncommissioned officer or private in command of a detachment salutes with the hand, after calling the detachment to attention.

805. An enlisted man, if seated, rises on the approach of an officer, faces toward him, and if covered, salutes. If standing, he faces the officer for the same purpose. If the parties remain in the same place or on the same ground, such compliments need not be repeated. Soldiers actually at work do not cease work to salute an officer unless addressed by him; if addressed, they stand at attention, and if covered, salute.

806. Before addressing an officer, an enlisted man makes the prescribed salute with the weapon with which he is armed, or if unarmed and covered, with the hand. He also makes the same salute after receiving a reply. If uncovered, he stands at attention without saluting.

A mounted man dismounts before addressing an officer not mounted, except in the field under campaign or simulated campaign conditions.

807. All salutes in passing or approaching are begun first by the junior at 6 paces distance, or at 6 paces from the nearest point of passing; no salutes, except as otherwise prescribed, are made at greater distances than 30 paces.

808. Indoors, except as provided in paragraph **809**, an unarmed enlisted man uncovers and stands at attention upon the approach of an officer; he does not salute. If armed, he salutes as heretofore prescribed without uncovering. Outdoors, if covered, he salutes.

809. On all occasions outdoors, and also in public places, such as stores, theaters, railway and steamboat stations, and the like, the salute to any person whatever by officers and enlisted men in uniform, with no arms in hand, whether on or off duty, shall be the hand salute, the headdress not to be removed.

810. When an officer enters a room where there are soldiers the word **attention** is given by some one who perceives him, when all rise and remain standing in the position of the soldier until the officer leaves the room or signifies his wishes. The same rule applies when an officer junior to the one entering is also in the room. Soldiers at meals do not rise.

811. When an officer approaches a number of enlisted men out of doors and not in ranks the word **attention** is given by some one who perceives him, when all stand at attention and all salute.

812. Officers at all times acknowledge the courtesies of junior officers and enlisted men by returning their salutes in the manner prescribed in these regulations. When several officers in company are saluted, all return the salute.

813. Soldiers at all times and in all situations pay the same compliments to officers of the Army, Navy, Marine Corps, and Volunteers and to officers of the Organized Militia in uniform as to officers of their own regiment, corps, or arm of service.

814. Officers arriving at the headquarters of a military command, or at a military post, call upon the commander thereof

as soon as practicable and register their names. If the visiting officer be senior to the commander, the former may send a card, in which case it becomes the duty of the commander to make the first call.

815. Honors, courtesies, and ceremonies not referred to herein are found in Army Regulations and in the Manual of Interior Guard Duty.

SECTION VI.—SALUTES WITH CANNON.

816. Salutes with cannon will, whenever practicable, be fired by a battery under command of its own officers.

The interval between discharges will be not less than 5 seconds. The battery commander will give the command for firing each piece. Immediately after each piece is discharged it is reloaded and made ready to fire again.

817. Pieces of field artillery will not be used to fire the morning or evening gun.

818. Salutes will not be fired between sunset and sunrise, and not on Sunday unless required by international courtesy. As a general rule, salutes will be fired between 8 a. m. and sunset. The national flag will always be displayed at the time of firing a salute.

National Salutes.

819. The national salute is 21 guns. It is also the salute to a national flag. The salute to the Union, commemorative of the Declaration of Independence and consisting of one gun for each State, is fired at noon on July 4 at every post provided with suitable artillery.

Personal Salutes.

820. The President, both on his arrival at and departure from a military post, or when in its vicinity, receives a salute of 21 guns. No other personal salute is fired in his presence.

The sovereign or chief magistrate of a foreign country receives the salute prescribed for the President. Members of a royal family receive the salute due their sovereigns. No salute

to a personage of lesser degree shall be fired in their official presence.

An ex-President of the United States receives a salute of 21 guns.

The Vice President receives a salute of 19 guns.

When officials other than those named visit military posts, they receive salutes as follows:

	Guns.
Ambassadors, members of the Cabinet, and the President pro tempore of the Senate	19
The Chief Justice, the Speaker of the House of Representatives, a committee of Congress officially visiting a military post, governors within their respective States or Territories, or a governor general, and the civil governor of the Philippine Islands	17
The Assistant Secretary of War or the Assistant Secretary of the Navy, when officially visiting a military post; the vice governor of the Philippine Islands, and American or foreign envoys or ministers	15
Ministers resident accredited to the United States	13
Chargés d'affaires	11
Consuls general accredited to the United States	11
The General	17
The Lieutenant General	15
Major general	13
Brigadier general	11

The term "governor general" shall be taken to mean an administrative officer under whom officers with the title of governor are acting.

821. As a rule, a personal salute is to be fired when the personage entitled to it enters a post.

When several persons, each of whom is entitled to a salute, arrive together at a post, the highest in rank or position alone is saluted. If they arrive successively, each is saluted in turn.

An officer assigned to duty according to his brevet rank is entitled to the salute prescribed for the grade to which he is assigned.

A retired general officer making an official visit is saluted according to his rank.

An officer, whether civil, military, or naval, holding two or more positions, either of which entitles him to a salute, re-

ceives only the salute due to the highest grade. In no event is the same person to be saluted in more than one capacity.

Personal salutes at the same place and in compliment to the same person, whether civil, diplomatic, military, or naval, are never to be fired oftener than once a year, unless such person shall have been in the meantime advanced in rank.

822. Officers of the Navy are saluted according to their relative rank; officers of marines and of the volunteer forces or militia in the service of the United States, and officers of foreign services, are saluted according to rank.

823. When a civil functionary entitled to a salute arrives at a military post, the commanding officer meets or calls upon him as soon as practicable, and will tender him a review if the garrison consists of not less than four companies. When a general officer visits a post within his command, the troops will be paraded for review, unless he directs otherwise. When a salute is to be given an officer junior to another present at a post, the senior will be notified to that effect by the commanding officer.

824. In addition to the foregoing, occasions of a public nature frequently arise when salutes are both desirable and proper. Orders will be given in such cases.

825. Detailed rules for assembling blank ammunition are given in the Handbook of the Matériel and must be strictly observed.

826. In case of failure of the cartridge to fire when the trigger is pulled the breech will not be opened until after the expiration of at least one minute.

PART VIII.—BUGLE CALLS.

Warning Calls.

827. **First call, guard mounting, full dress, overcoats, drill, stable, water,** and **boots and saddles** precede the **assembly** by such interval as may be prescribed by the commanding officer.

Mess, church, and **fatigue,** classed as **service calls,** may also be used as warning calls.

First call is the first signal for formation for roll call on foot.

Guard mounting is the first signal for guard mounting.

Drill call is the first signal for drill dismounted.

Boots and saddles is the signal for mounted formations; for mounted drill, it immediately follows the signal **drill.**

The musicians assemble at **first call, guard mounting,** and **boots and saddles.**

When full dress or overcoats are to be worn, the **full dress** or **overcoat** call immediately follows **first call, guard mounting,** or **boots and saddles.**

Formation Calls.

828. **Assembly.**—The signal for the batteries or details to form on their battery parade grounds.

When the drivers are near their horses, and the men are known to be present, the **assembly** may be omitted after **boots and saddles,** at the discretion of the commanding officer, in which case the drivers immediately proceed to their horses and harness without further command; the cannoneers proceed to their carriages.

Adjutant's call.—The signal for the batteries or guard details to assemble on the camp or garrison parade ground; it follows the **assembly** at such interval as may be prescribed by the commanding officer.

To the standard.—The signal for the battalions to form regiment. It is also used when the standard salutes.

Alarm Calls.

829. Fire call.—The signal for the men to fall in, without arms, to extinguish fire.

To arms or **to horse.**—The signal for the batteries to form at a designated place, harnessed and hitched, as quickly as possible.

Service Calls.

830. Taps, mess, sick, church, recall, issue, officers', captains', first sergeants', fatigue, school, and the general.

The general is the signal for striking tents and leading wagons preparatory to marching.

Reveille precedes the assembly for roll call; **retreat** follows the **assembly**, the interval between being only that required for formation and roll call.

Taps is the signal for extinguishing lights; it is usually preceded by **call to quarters** by such interval as is prescribed in Army Regulations.

Assembly, reveille, retreat, adjutant's call, to the standard, the **flourishes,** and the **marches** are sounded by all the musicians united; the other calls, as a rule, are sounded by the musician of the guard or orderly musician; he may also sound the **assembly** when the musicians are not united.

The morning gun is fired at the first note of reveille, or, if marches be played before reveille, it is fired at the commencement of the first march.

The evening gun is fired at the last note of retreat.

Drill Signals.

831. The drill signals include both the preparatory commands and the commands of execution; the last note is the command of execution.

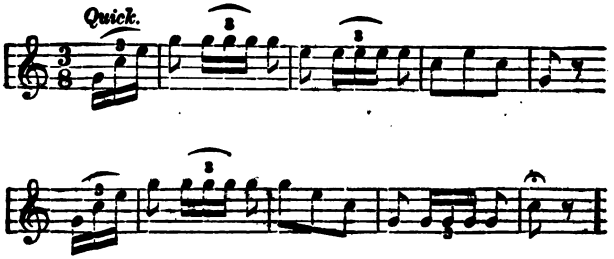
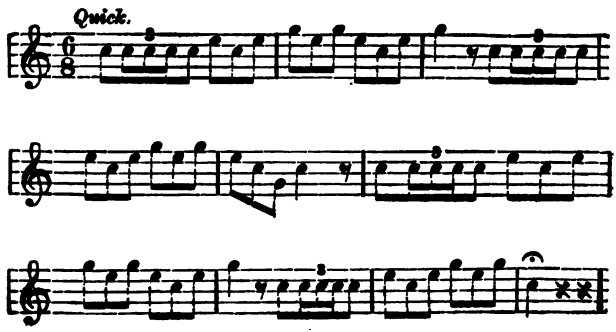
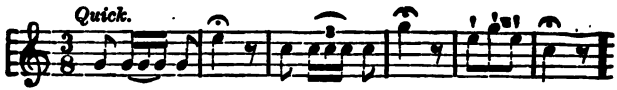
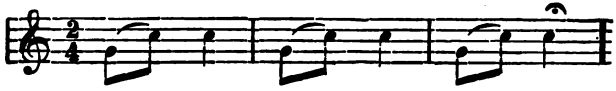
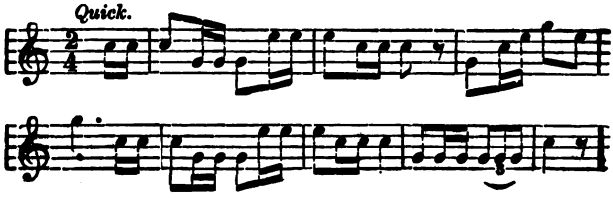
The drill signals are taught in succession, a few at a time, until the officers and men are thoroughly familiar with them, some drills being specially devoted to this purpose.

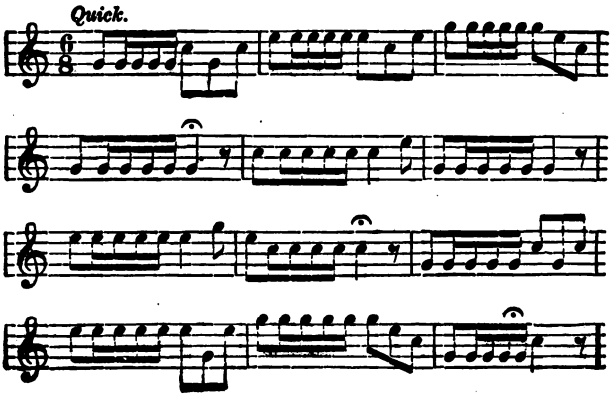
The memorizing of these signals will be facilitated by observing that signals for all movements to the right are on the ascending scale; that signals for the corresponding movements to the left are corresponding signals on the descending scale; that the changes of gait are all upon the same note; that captains' call is the first two bars of officers' call with the attention added.

832. In the presence of the enemy all bugle calls are prohibited.

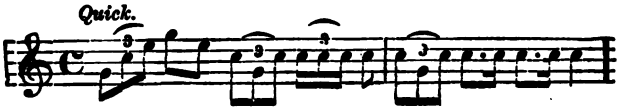
BUGLE CALLS.

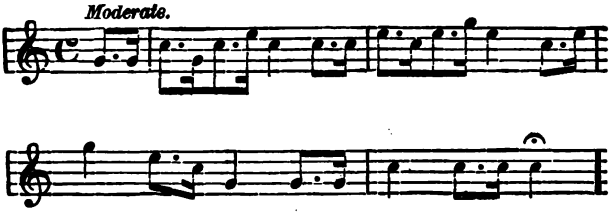
To economize space, the music is written an octavo higher than the trumpet scale, and is adjusted to the scale of the bugle.

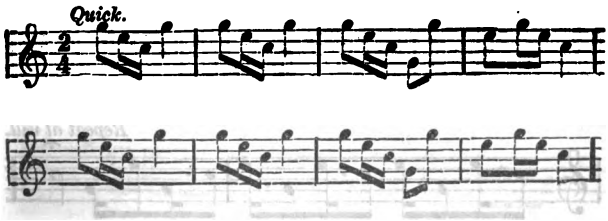
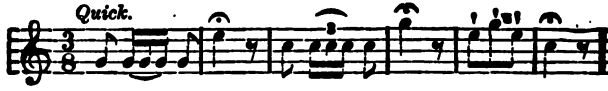
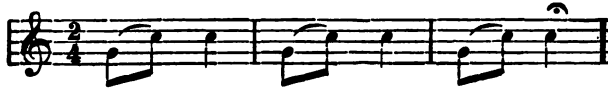
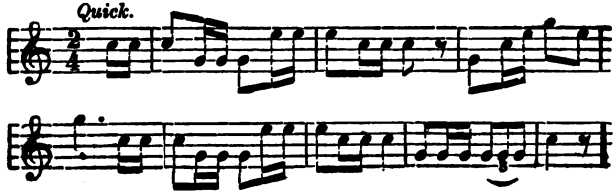
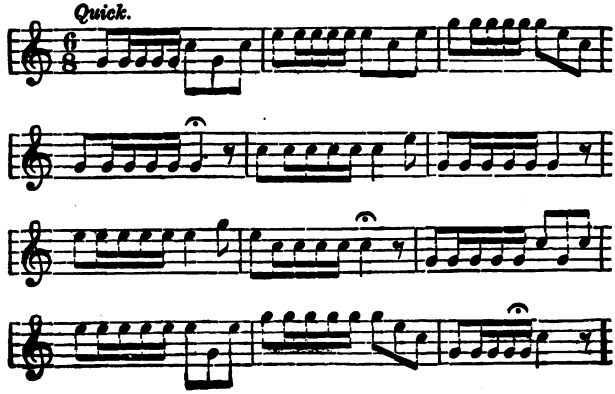
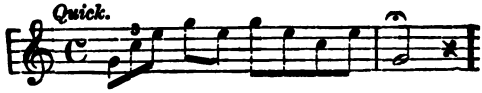
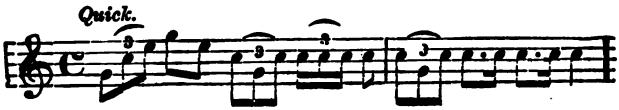
1. FIRST CALL.

2. GUARD MOUNTING.

3. FULL DRESS.

4. OVERCOATS.

5. DRILL.

6. STABLE.

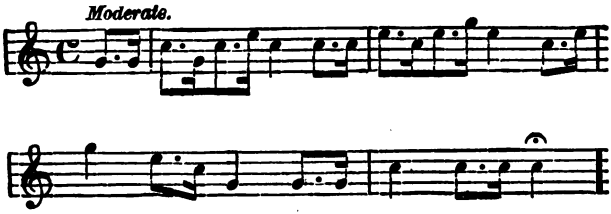


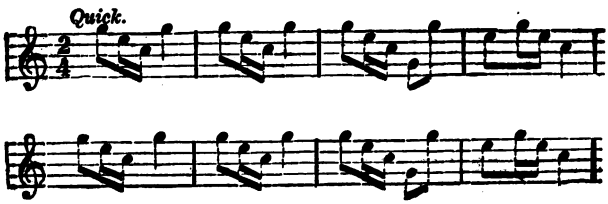
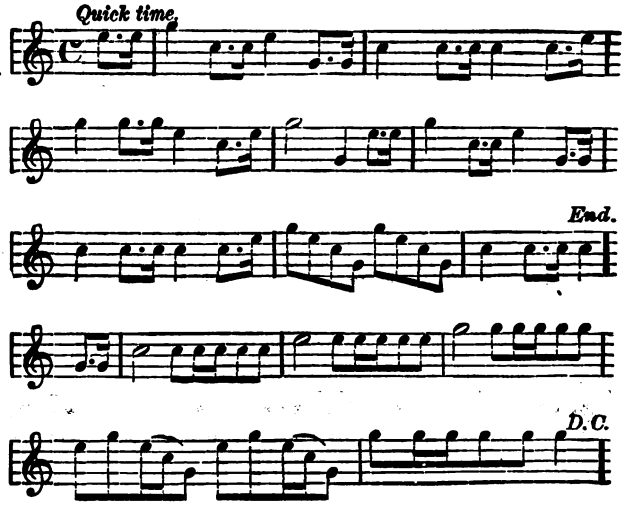
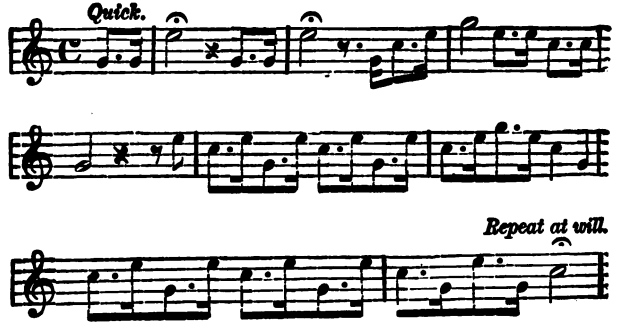
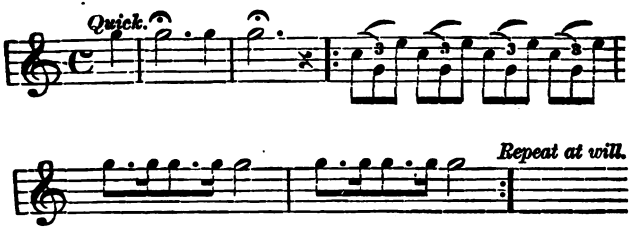
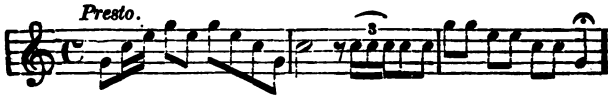
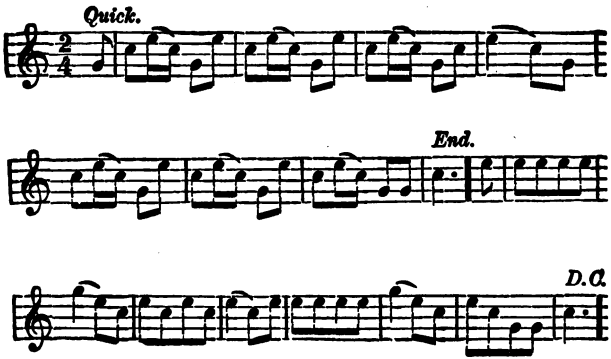
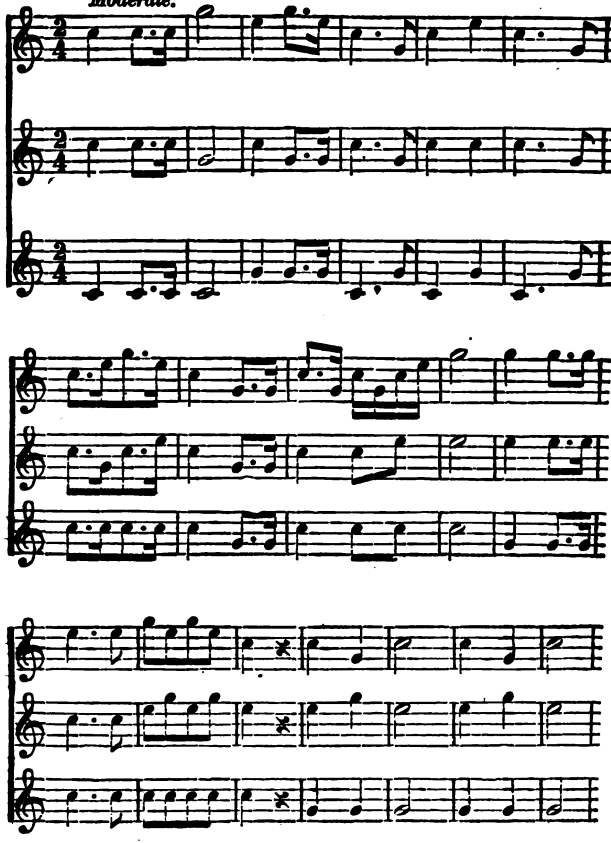
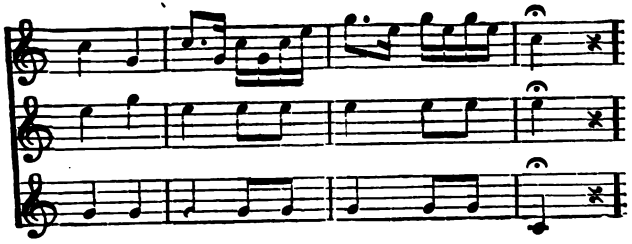
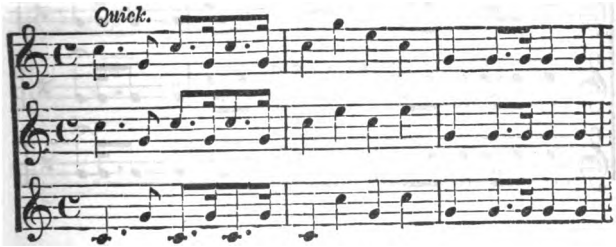
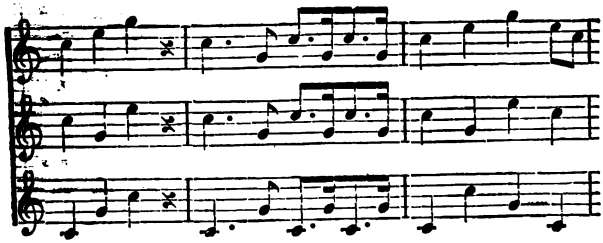
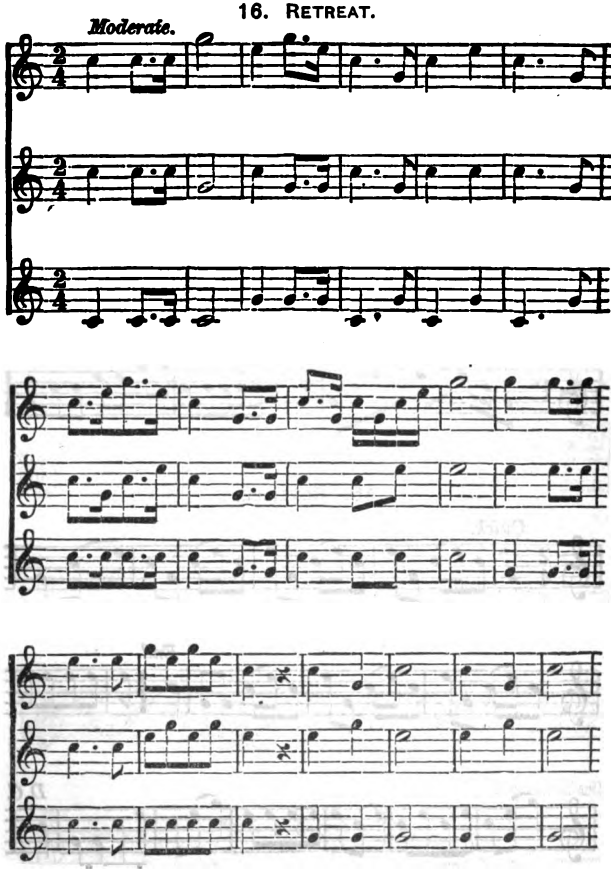
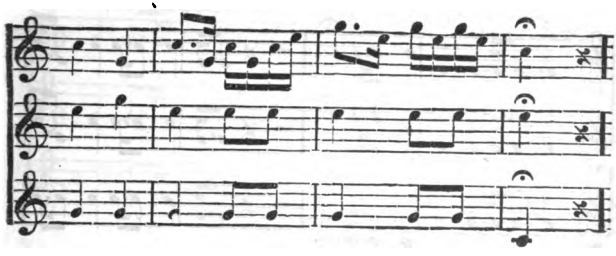
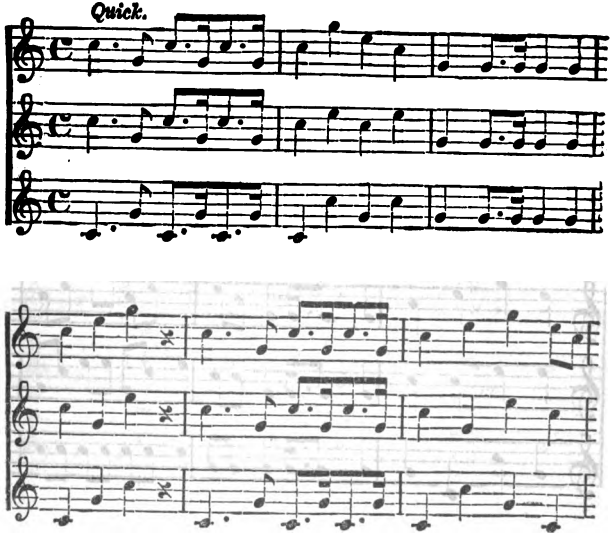
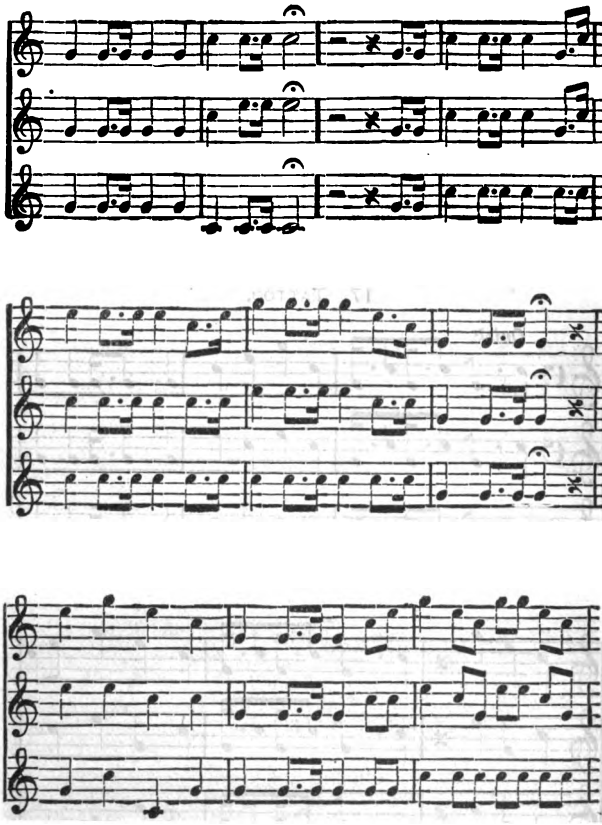
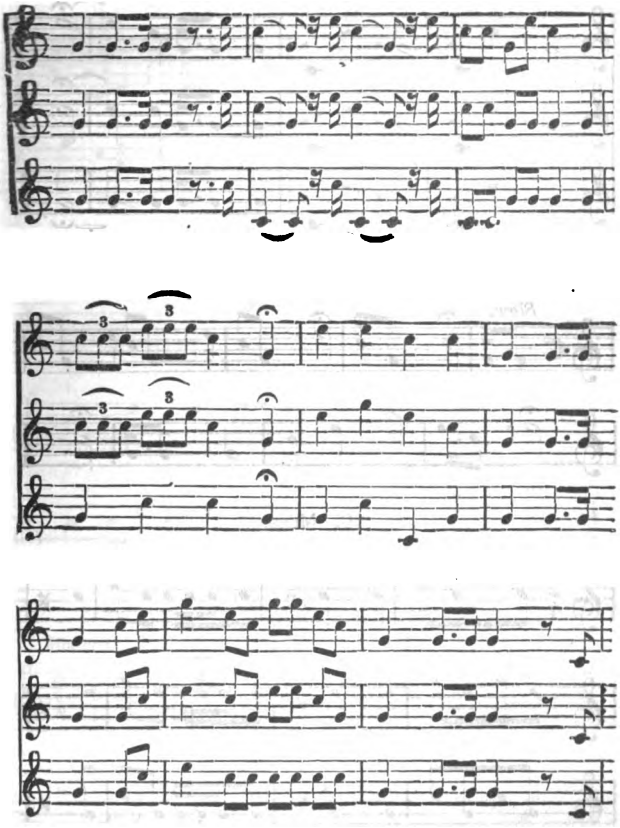
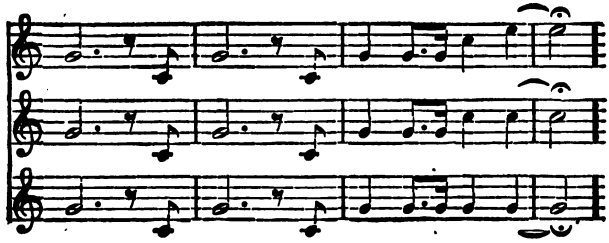
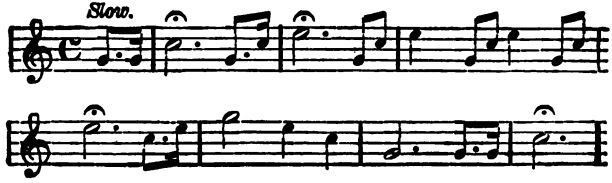
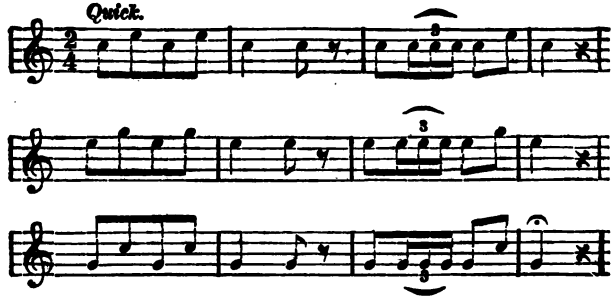
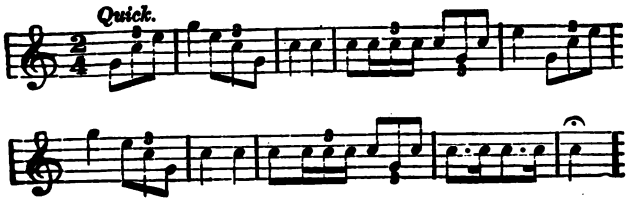
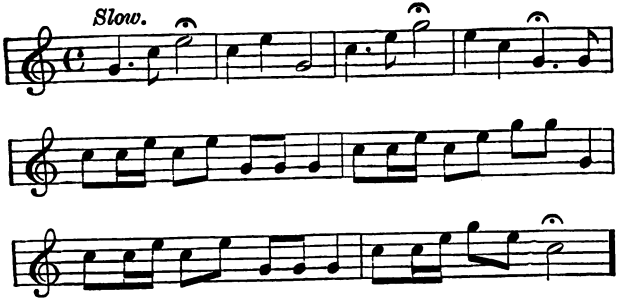
7. WATER.

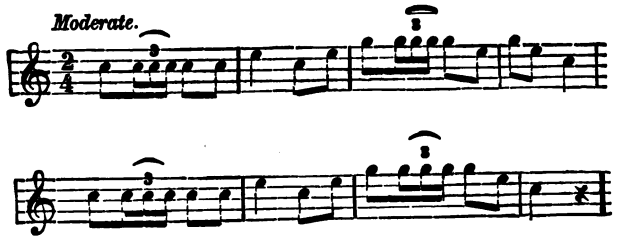
8. BOOTS AND SADDLES

9. ASSEMBLY.

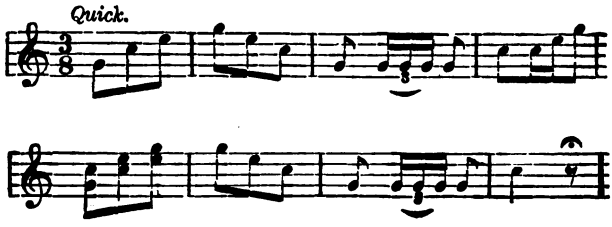
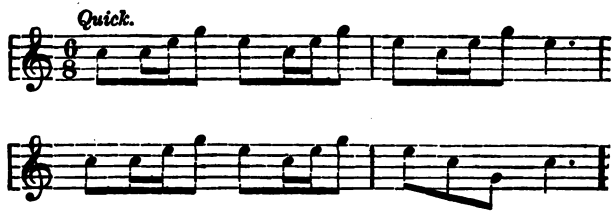
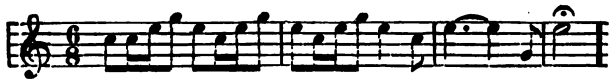
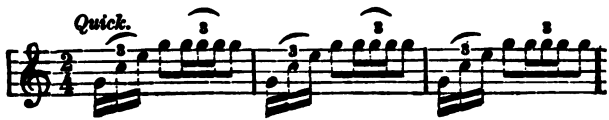
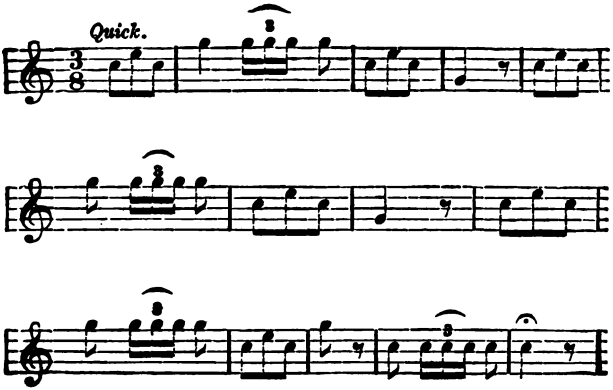
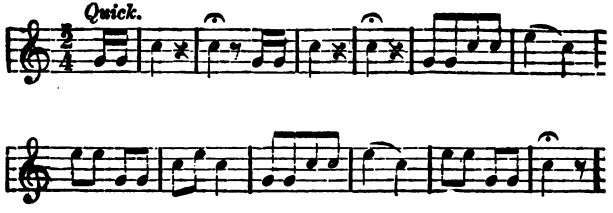


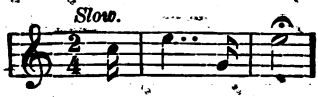
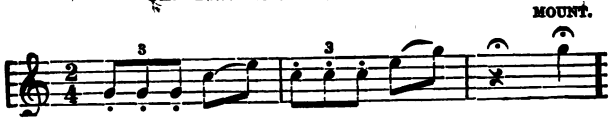
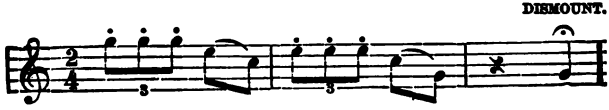
10. ADJUTANT'S CALL.

3. FULL DRESS.

4. OVERCOATS.

5. DRILL.

6. STABLE.

7. WATER.

8. BOOTS AND SADDLES

9. ASSEMBLY.

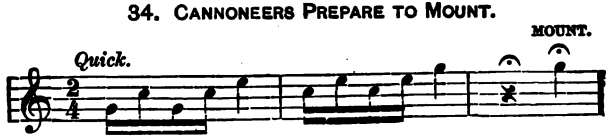


10. ADJUTANT'S CALL.

11. TO THE STANDARD, OR TO THE COLOR.

12. FIRE.

13. To Arms.

14. To Horse.

15. Reveille.

16. RETREAT.

RETREAT—*Concluded.*

17. TATTOO.

16. RETREAT.

RETREAT—*Concluded.*

17. TATTOO.

TATTOO—*Continued.*

TATTOO—*Continued.*

TATTOO—*Concluded.*

18. TAPS.

19. MESS.

20. SICK.

21. CHURCH CALL.

22. RECALL.

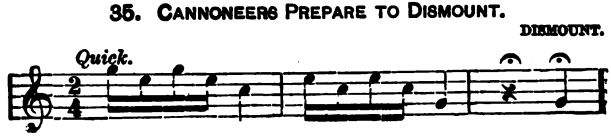


23. ISSUE.

24. OFFICERS' CALL.

25. CAPTAINS' CALL.

26. FIRST SERGEANTS' CALL.

27. FATIGUE.

28. SCHOOL.

DRILL SIGNALS.

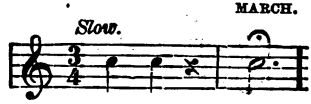
31. ATTENTION.

32. DRIVERS PREPARE TO MOUNT.

33. DRIVERS PREPARE TO DISMOUNT.

34. CANNONEERS PREPARE TO MOUNT.



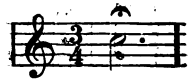
35. CANNONEERS PREPARE TO DISMOUNT.



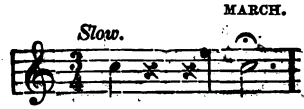
36. FORWARD.



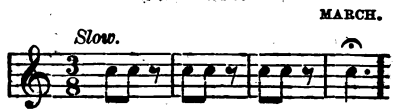
37. HALT.



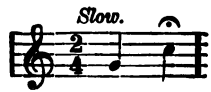
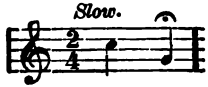
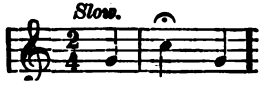
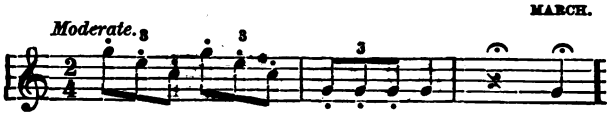
38. WALK.

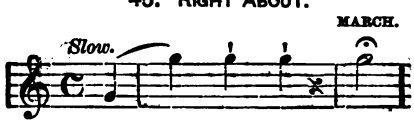


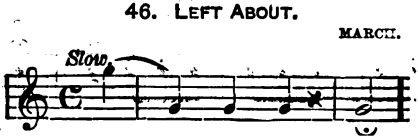
39. TROT.

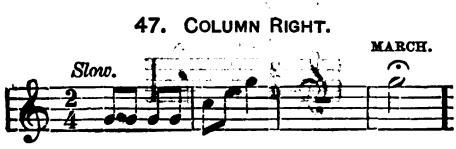


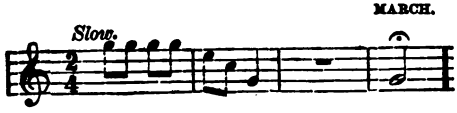
40. GALLOP.

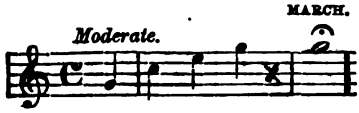
41. GUIDE RIGHT.

42. GUIDE LEFT.

43. GUIDE CENTER.

44. COUNTERMARCH.

45. RIGHT ABOUT.



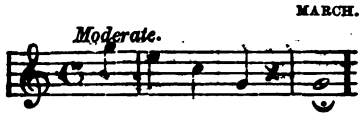
46. LEFT ABOUT.

47. COLUMN RIGHT.

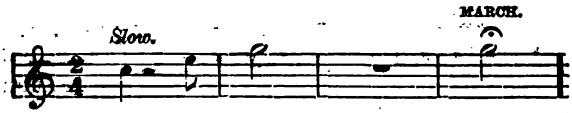


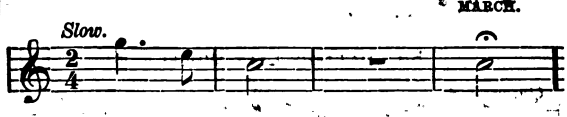
48. COLUMN LEFT.

49. BY THE RIGHT FLANK.



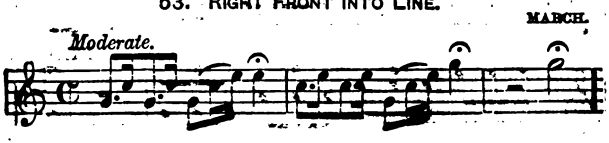
50. BY THE LEFT FLANK.



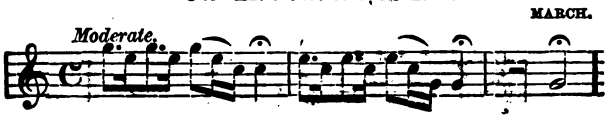
51. RIGHT OBLIQUE.

52. LEFT OBLIQUE.



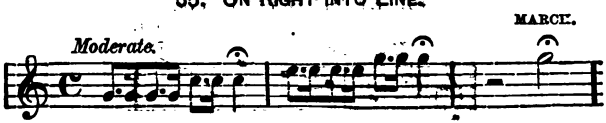
53. RIGHT FRONT INTO LINE.



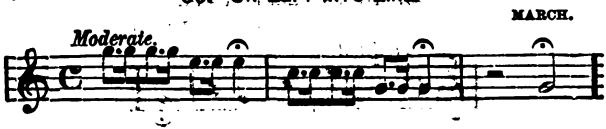
54. LEFT FRONT INTO LINE.

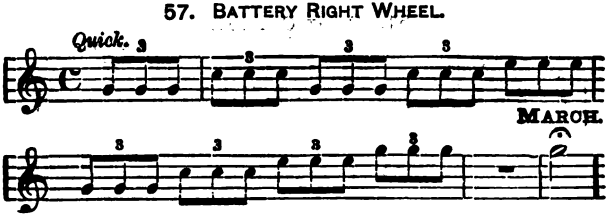
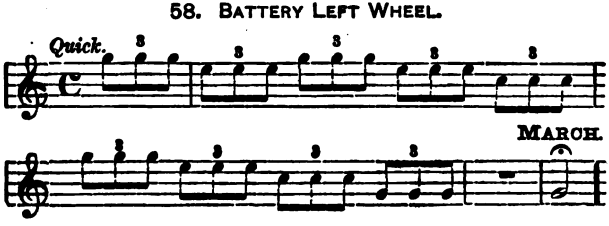
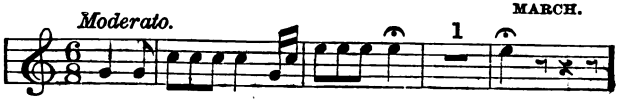
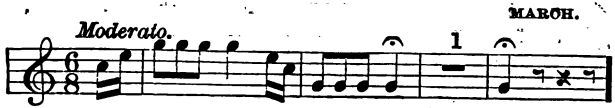


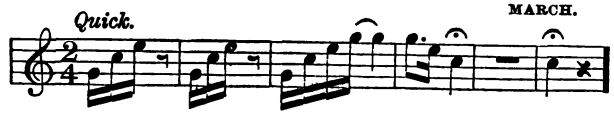
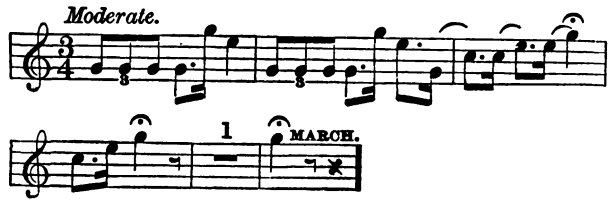
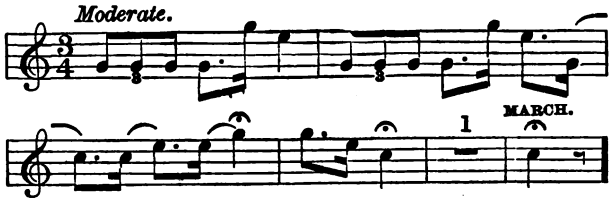
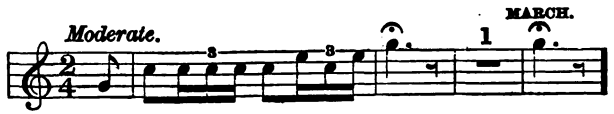
55. ON RIGHT INTO LINE.

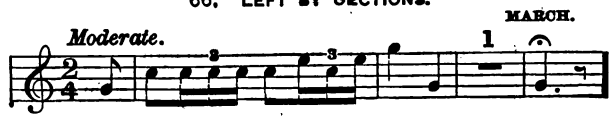


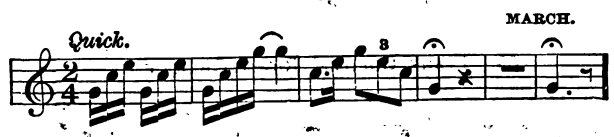
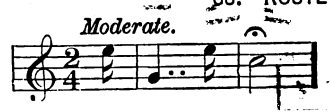
56. ON LEFT INTO LINE.

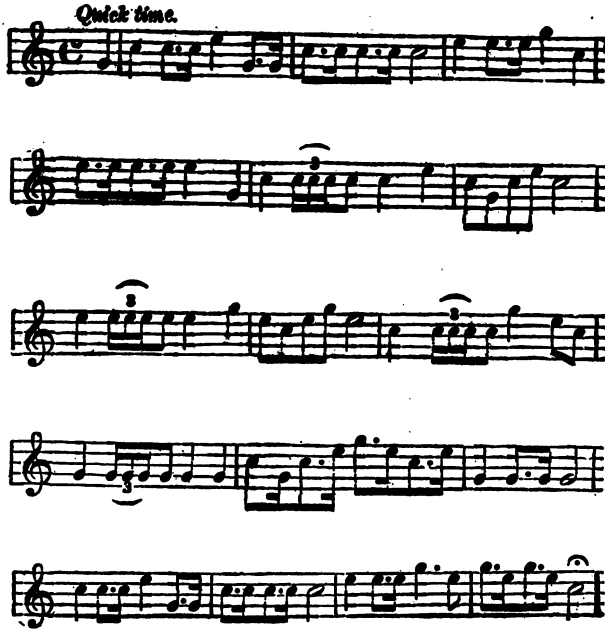
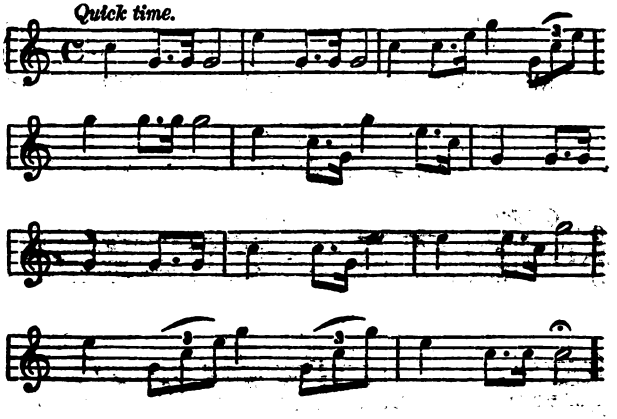


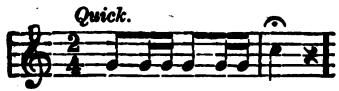
57. BATTERY RIGHT WHEEL.

58. BATTERY LEFT WHEEL.

59. PIECES FRONT.

60. CAISSONS FRONT.

61. DOUBLE SECTION, RIGHT OBLIQUE.

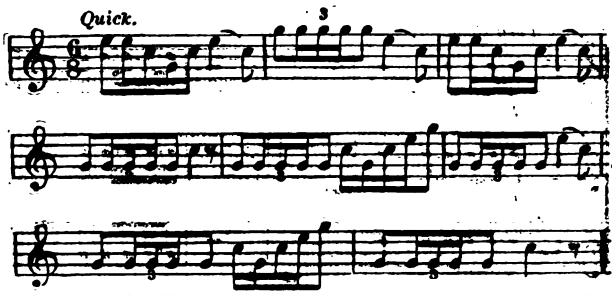
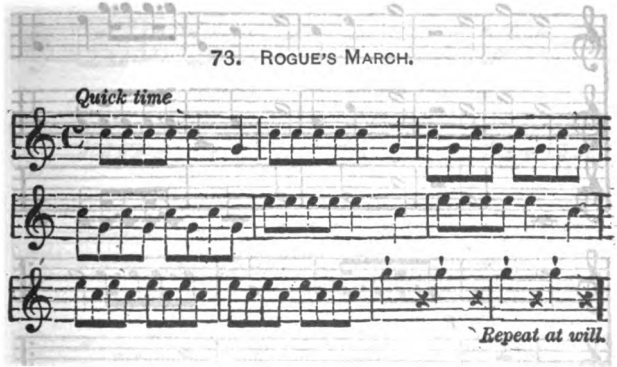
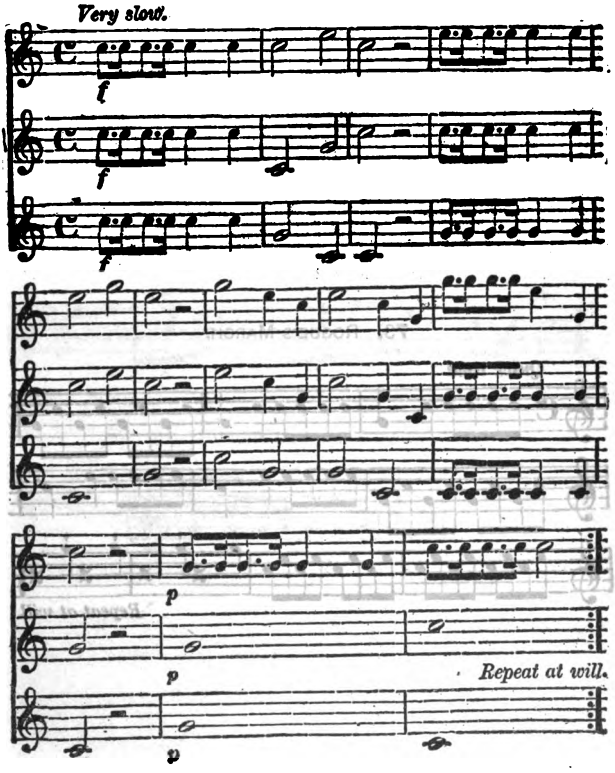
62. DOUBLE SECTION, LEFT OBLIQUE.

63. FLANK COLUMN, RIGHT OBLIQUE.

64. FLANK COLUMN, LEFT OBLIQUE.

65. RIGHT BY SECTIONS.

66. LEFT BY SECTIONS.

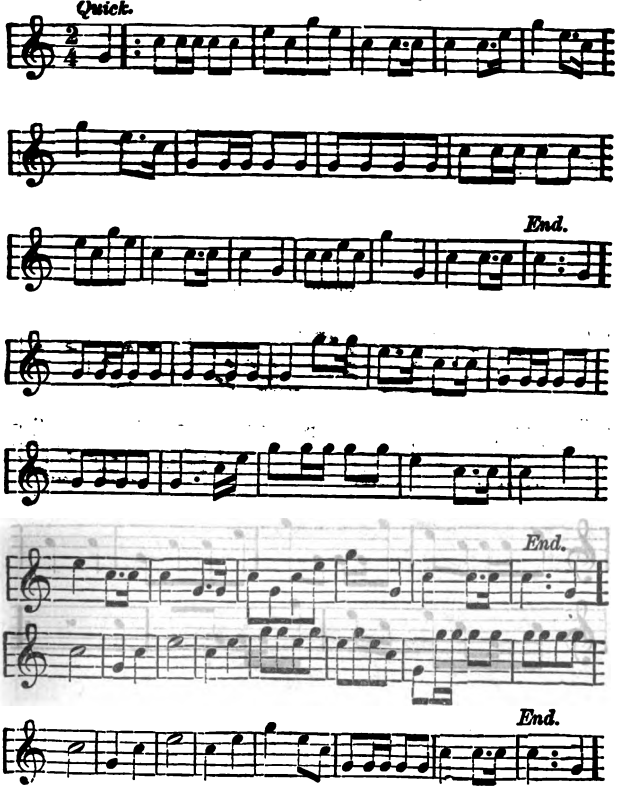
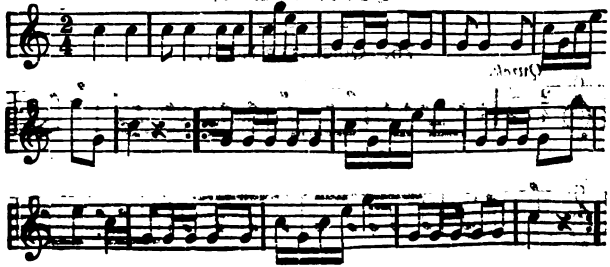
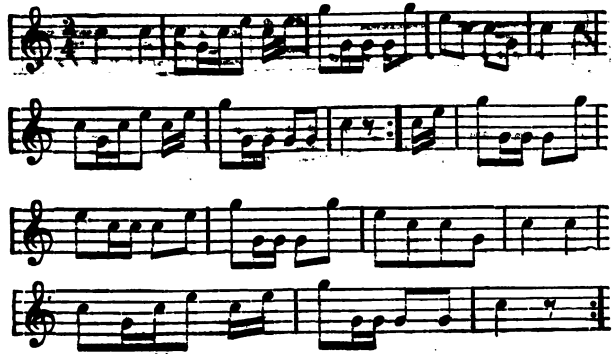
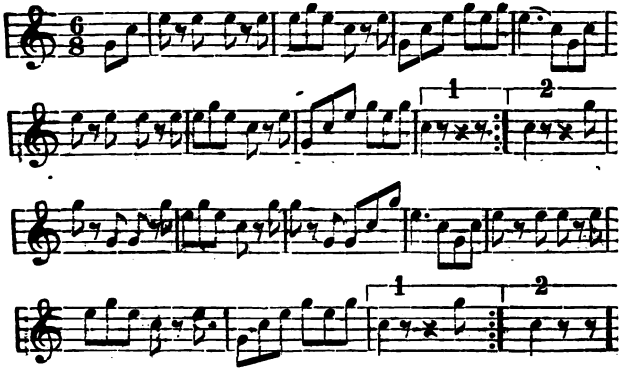
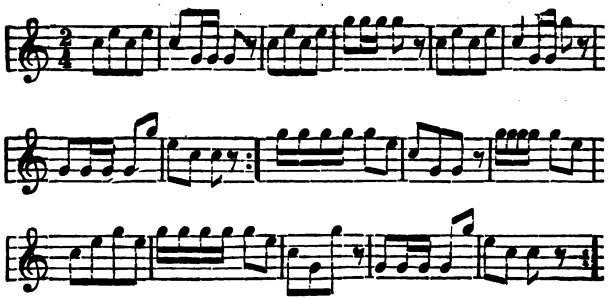
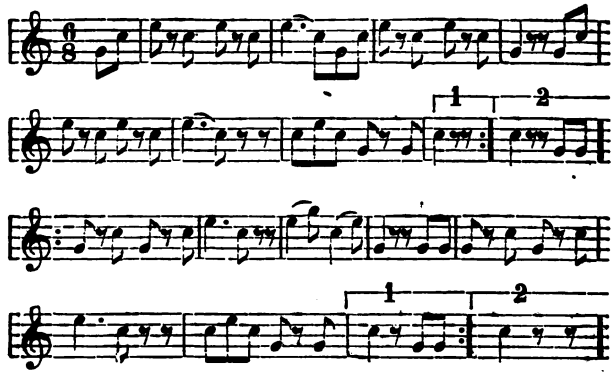
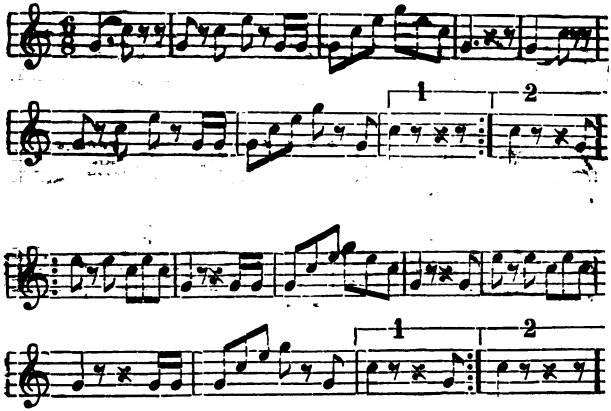
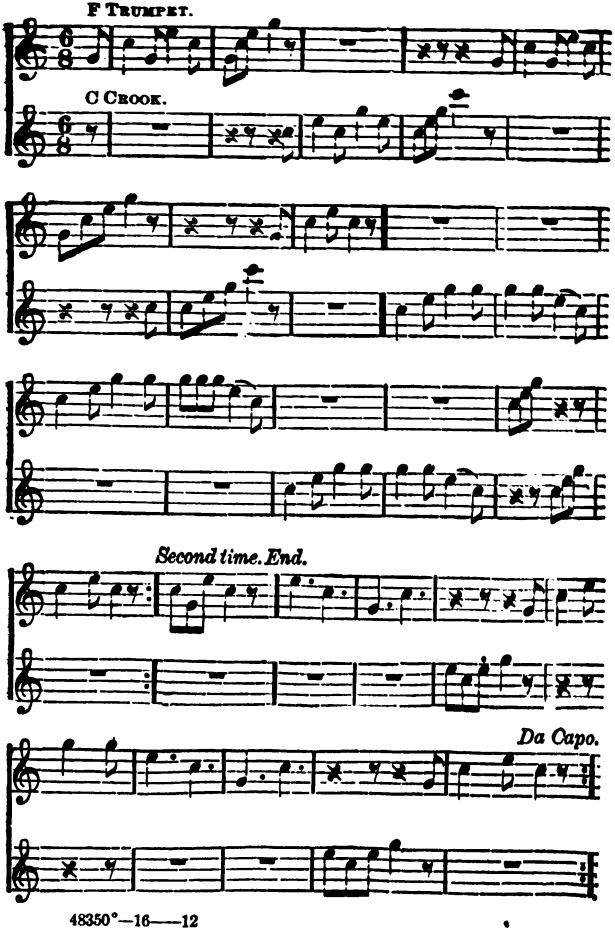


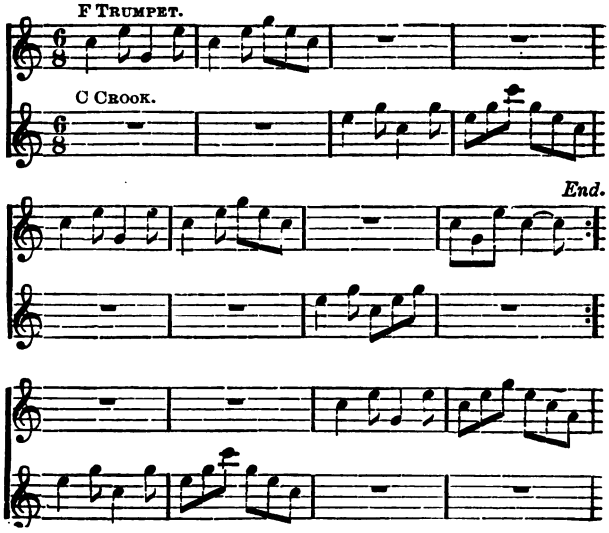
67. FORM DOUBLE SECTION LINE.

68. ROUTE ORDER.

MISCELLANEOUS BUGLE CALLS.

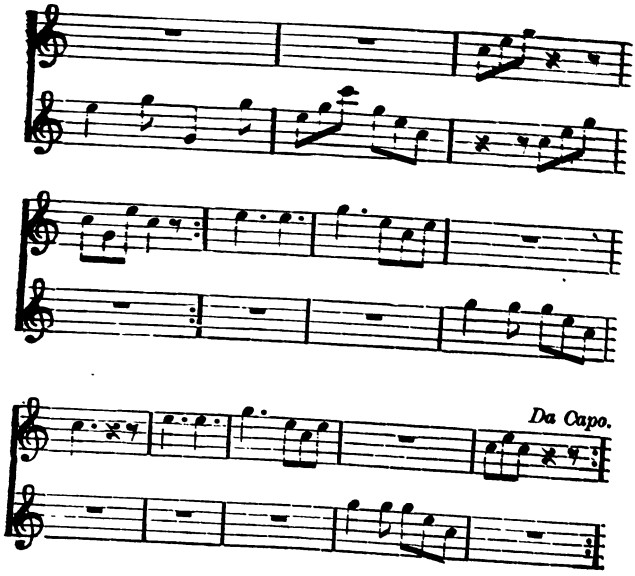
69. PRESIDENT'S MARCH.

70. General's March.

71. Flourishes for Review.

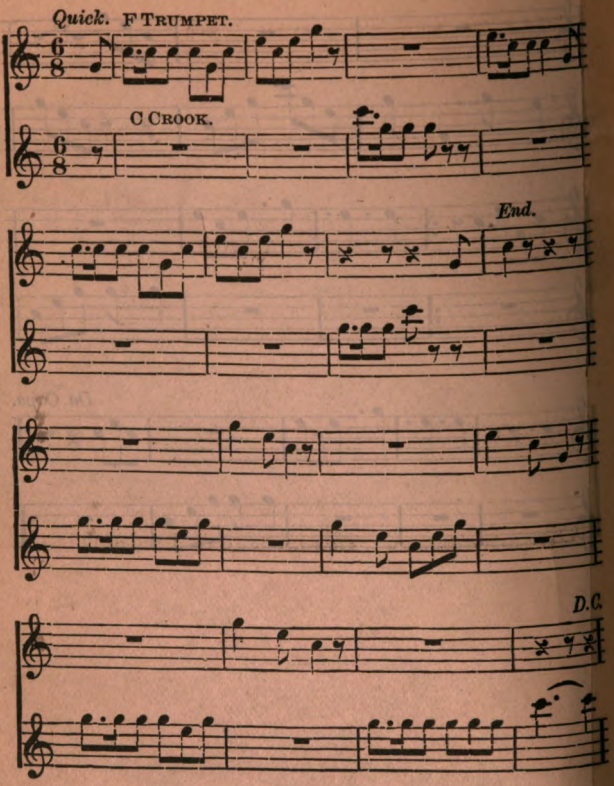


72. Sound Off.

73. Rogue's March.

74. Funeral March.

QUICKSTEPS.

75. QUICKSTEP No. 1.

76. Quickstep No. 2.

77. Quickstep No. 3.

78. QUICKSTEP NO. 4.

79. QUICKSTEP NO. 5.

80. Quickstep No. 6.

81. Quickstep No. 7.

82. Quickstep No. 8.

83. Quickstep No. 9.



QUICKSTEP No. 9—*Concluded.*

84. QUICKSTEP No. 10.



UNIVERSITY OF MICHIGAN
3 9015 03150 4593